TOWN PLANNING BOARD

TPB PAPER NO. 9874 FOR CONSIDERATION BY THE TOWN PLANNING BOARD ON 20.3.2015

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B <u>FURTHER CONSIDERATION OF A NEW PLAN</u>

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1. **INTRODUCTION**

The purposes of this paper are to:

- (a) report on the results of the consultation with the Tai Po District Council (TPDC) and Sai Kung North Rural Committee (SKNRC), and other public views received on the draft Chek Keng Outline Zoning Plan (OZP) No. S/NE-CK/B; and
- (b) seek Members' agreement that the draft Chek Keng OZP No. S/NE-CK/B, its Notes and Explanatory Statement (ES) (Annexes I to III) are suitable for public inspection under section 5 of the Town Planning Ordinance (the Ordinance).

2. <u>BACKGROUND</u>

- 2.1 On 19.12.2014, the Town Planning Board (the Board) gave preliminary consideration to the draft Chek Keng OZP No. S/NE-CK/B (TPB Paper No. 9808) and agreed that the draft OZP was suitable for submission to the TPDC and SKNRC for consultation. An extract of the minutes of the Board's meeting held on 19.12.2014 and TPB Paper No. 9808 are at **Annexes IV and V** respectively for Members' reference.
- 2.2 Major land use proposals of the draft Chek Keng OZP No. S/NE-CK/B (**Plan 1**) have been highlighted in the TPB Paper No. 9808 and recapitulated below:

<u>"Coastal Protection Area" ("CPA") Zone (3.60 ha and 10.36%) (Plans 1 to 3 and 6)</u>

(a) The "CPA" zone is to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment. It mainly covers the coastal area along Chek Keng Hau to the north of MacLehose Trail (with the exception of a few houses and ruins at the existing village cluster) and the cliff of the vegetated knoll to the south of the trail. It primarily consists of sandy/rocky shore with cliff, backshore vegetation, mangroves and stream estuaries. The intertidal mudflat straddling the edge of the Area and the sea supports seven species of mangroves including the uncommon *Heritiera littoralis* (銀葉樹) and a high diversity of mangrove fauna. This zone can also provide a buffer between the adjoining village area and the marine environment.

<u>"Green Belt" ("GB") Zone (28.82 ha and 82.96%) (Plans 1 to 3 and 6)</u>

(b) Except for the existing village cluster and some Government, Institution or Community (GIC) facilities, the area to the south of MacLehose Trail mainly comprises woodlands, shrublands, grasslands and streams. There is neither

fung shui woodland nor Ecologically Important Stream (EIS) in the Area, and the terrestrial habitats consist largely of common native plant species. These areas are proposed to be zoned "GB" in order to provide a buffer between the village type developments and the Country Park and to conserve the natural and rural character of the Area. The "GB" zone also comprises the western part of the permitted burial ground on the hillslopes along the northeastern fringe of the Area.

"Village Type Development" ("V") Zone (2.24 ha and 6.45%) (Plans 1 to 6)

(c) The Chek Keng Village is the only recognized village within the Area. Given the natural environment and high ecological and landscape value of the Area, an incremental approach for designation of "V" zone for Small House development has been adopted with an aim to confining Small House development at suitable locations so as to avoid undesirable disturbances to the natural environment and overtaxing the limited infrastructure in the Area. The proposed "V" zone mainly covers the existing village cluster and the adjoining abandoned agricultural land currently covered with some shrubs and trees.

"Government, Institution or Community" ("G/IC") Zone (0.08 ha and 0.23%) (Plans 1, 2, 4 and 6)

(d) Major GIC facilities in the Area include a public toilet and a refuse collection point in the eastern part of the Area. The Holy Family Chapel (聖家小堂), a Grade 2 historic building, is located at the southern fringe of the village. To reflect these facilities, it is proposed to zone them as "G/IC".

3. <u>LOCAL CONSULTATION</u>

SKNRC and TPDC

- 3.1 The SKNRC and TPDC were consulted on the draft Chek Keng OZP No. S/NE-CK/B on 7.1.2015 and 14.1.2015 respectively¹.
- 3.2 The SKNRC objected to the draft OZP. Their major comments and proposals are summarized below:

Insufficient "V" Zone

(a) The "V" zone is insufficient to meet the housing need of the villagers, particularly if the accessibility of the village is improved. In comparison with the village 'environs' ('VE'), there is a major reduction in the area for Small House development in the draft OZP. As such, the 'V' zone should be

¹ The Indigenous Inhabitant Representative (IIR) of the Chek Keng Village has also attended the meetings of the SKNRC and TPDC in January 2015. As reported in the TPB Paper No. 9808, the IIR and his consultants, at the consultation meeting held on 5.11.2014 and in their submission on 13.11.2014, had advised that a detailed report including development proposals as well as tree and ecological appraisals would be submitted by end 2014. The IIR has been contacted on several occasions in this regard. However, as at 13.3.2015, no such submission has been received.

enlarged to cater for the Small House demand, and the footpath leading from To Kwa Peng/Pak Tam Au to Chek Keng should be enhanced to allow for movements of small electrical vehicles.

Misleading Incremental Approach

(b) They have not been consulted on the incremental approach for designation of "V" zone, which is misleading as once the areas have been covered by conservation zones, they can hardly be rezoned for Small House development.

No Right Balance between Conservation and Development

(c) The Government has been paying more regard to the views of the green groups than those of the villagers. The draft OZP fails to strike a right balance between conservation and development.

Addition of "AGR" Zone

- (d) There are plenty of agricultural lots in the Chek Keng Village, therefore "Agriculture" ("AGR") zone should be added in the draft OZP.
- 3.3 Members of the TPDC at its meeting on 14.1.2015 respected the SKNRC's decision and objected to the draft OZP. Major comments and proposals raised by the Members of the TPDC are summarized below:

Designation of "V" Zone based on the 'VE'

(a) The "V" zone is insufficient to meet the future long term housing need of the villagers. Designation of the "V" zone should be based on the 'VE'.

Unreasonable Requirement for Septic Tank and Soakaway Systems

(b) The requirement as indicated in paragraph 9.1.7 under the "V" zone of the ES of the draft OZP (i.e. for Small House development, the design and construction of the septic tank and soakaway systems need to comply with relevant standards and regulations, such as Environmental Protection Department (EPD)'s Practice Note for Professional Persons (ProPECC PN) 5/93 – "Drainage Plans subject to Comment by the Environmental Protection Department", for the protection of the water quality of the Area) is unreasonable, as it would impose difficulty in obtaining approval for construction of New Territories Exempted House (NTEH).

Consultation with the SKNRC and Local Villagers

(c) Consultation with the SKNRC and local villagers is required with a view to achieving consensus.

Failure of the Draft OZP to Reflect the Original Intention of the Country Parks Ordinance

(d) The draft OZP fails to reflect the original intention of enactment of the

Green and Concern Groups

3.4 On 27.1.2015 and 4.2.2015, Kadoorie Farm & Botanic Garden Corporation (KFBG) made a submission to the Planning Department (PlanD) (**Annex VII**). A meeting with the KFBG, World Wide Fund for Nature Hong Kong (WWF-HK) and Designing Hong Kong Limited (DHKL) was conducted to briefly exchange views on their ecological information and land use proposals indicated in KFBG's submission. WWF-HK and DHKL in general concurred with the KFBG's views.

Rezoning of 10 to 30m-wide Riparian Buffers along the Streams from "GB" to "GB(1)" or "CA"

3.5 In general, KFBG does not agree that the size of the "V" zone should be increased. According to their submission, the two streams in the Area support species of global, regional and local conservation importance/interest including the shrub *Diospyros vaccinioides* (小果柿), the goby *Stiphodon multisquamus* (多鱗枝牙鰕虎魚), Sesarmine Crabs, the shrimp *Macrobrachium meridionalis* (沼蝦屬), etc. The riparian zones are important in protecting the integrity of the stream systems. Therefore, KFBG proposes that the two streams should be protected by 10 to 30m-wide riparian buffers, and these areas should be covered by "GB(1)" or "CA" zone, in which Small House development is not permitted.

4. PLANNING DEPARTMENT'S RESPONSES

4.1 In consultation with departments concerned, the PlanD's responses to the above comments/proposals are as follows:

Designation of "V" Zone

- (a) In drawing up the draft OZP, special attention has been given to protect the high conservation and landscape value of the Area having regard to the wider natural system of the adjoining Sai Kung East Country Park. Environmentally sensitive areas including the sandy/rocky shore, backshore vegetation, mangroves, woodlands and streams are covered by conservation zones, i.e. "CPA" and "GB".
- (b) Chek Keng Village is the only recognized village in the Area. Thus there is a need to designate "V" zone at suitable locations to meet the Small House demand of local villagers after delineating the areas that have to be conserved. The boundaries of the "V" zone have been drawn up having regard to the 'VE', the number of outstanding Small House applications, Small House demand forecast, local topography and site constraints. Areas of difficult terrain, dense vegetation, stream courses and burial grounds have been avoided as far as possible.
- (c) According to the District Lands Officer/Tai Po, Lands Department (DLO/TP, LandsD)'s record for Chek Keng, there are 20 outstanding Small House

applications and the latest 10-year forecast of Small House demand as provided by the IIR is 254. There is no planning application received since the gazettal of the draft DPA Plan. With a view to minimizing adverse impacts on the natural environment of the Area coupled with its limited infrastructure, an incremental approach has been adopted for designating "V" zone for Small House development in that the land area of "V" zone would not fully meet the land requirement of Small House demand at the outset with an aim to confining such development at suitable location adjacent to existing village cluster. About 2.24 ha of land mainly covering the existing village cluster and its adjoining area has been reserved for Small House development. Within the proposed "V" zone, about 1.04 ha of land is available capable of meeting about 15.2% (41 houses) of the total Small House demand for 274 houses (**Table 1**).

Small House Demand Figure in 2012		Small House Demand Figure in 2014			((\$ 79) 77	Required	Available	Percentage of
Outstanding Demand	10-year Forecast (2012 – 2021)	Outstanding Demand	10-year Forecast (2014 – 2023)	'VE' Area (ha) ('VE' Area in OZP)	"V" Zone on Draft OZP (ha)	Land to Meet New Demand (ha)	Land to Meet New Demand (ha)	the New Demand met by Available Land
19	Nil*	20	254**	8.2 (7.49)	2.24	6.85	1.04	15.2%

Table 1: Small House Demand for Chek Keng Village

According to the TPB Paper No. 9068 on Consideration of the Draft Chek Keng DPA Plan No. DPA/NE-CK/C in April 2012, there were 19 outstanding Small House applications and the 10-year Small House demand forecast had not been available since 2007.

- ** On 14.11.2014, DLO/TP, LandsD advised that on 12.11.2014, the IIR submitted a 10-year Small House demand forecast to his office and the said forecast figure provided by IIR of Chek Keng was 254. DLO/TP, LandsD further advised that the said forecast figure was not verified in any way by his office.
 - (d) It should be noted that the land reserved for "V" zone in the Area is intended for Small House developments by the villagers. Although the area of the proposed "V" zone could not meet all the current forecast of Small House demand, all outstanding demand (i.e. 20 Small Houses) could be satisfied and should there be a genuine need to use the land outside the "V" zone for Small House developments, there is provision in the Notes of the draft OZP to allow for application to the Board. Each application would be considered by the Board based on its individual merits. It is considered that the draft OZP could strike a balance between enhancing nature conservation of the Area and meeting the needs of villagers for Small House development.

Enhancement of Footpath to Chek Keng (Plan 7)

- (e) Regarding the proposed enhancement of the footpath leading to Chek Keng to allow for small electrical vehicles, any such provision would have to pass through the Country Park. For the part of the footpath within the Country Park, the potential ecological, landscape and visual impacts and the impacts on country park visitors would have to be carefully assessed and consent of the Country and Marine Parks Authority must be obtained. For the part of the footpath within the Area, flexibility has been provided in the covering Notes of the draft OZP for road works coordinated or implemented by Government.
- (f) According to the 2011 Census, the total population of the Area was about 30

persons. At present, the Area is not served by any vehicular access but is accessible by walking trails, including the popular MacLehose Trail, and boats from the nearby Wong Shek, or from the more distant Ma Liu Shui, Tai Po. The "V" zone in the draft OZP would accommodate a total planned population of around 330 persons. Relevant works departments would keep in view the need for infrastructure in future subject to resources availability.

Addition of "AGR" Zone

(g) The Area forms an integral part of the natural system of the adjoining Sai Kung East Country Park with a wide spectrum of natural habitats including, *inter alia*, woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves which should be preserved and protected. The Area is natural and rural in character and has high landscape and scenic value. The general planning intention of the Area is to protect its high conservation and landscape value which complements the overall naturalness and the landscape beauty of the surrounding Country Park. Since agricultural use is always permitted for land fallen within "V" and "GB" zones, and agricultural use (other than plant nursery) is also a Column 1 use under the zoning of "CPA", there should be no hindrance to farming activities even not designating of "AGR" zone. It is noted that at present there is no active agricultural activities in the Area.

Requirement for Septic Tank and Soakaway Systems

(h) At present, the Area is not served by public sewer. Septic tank and soakaway systems are commonly used in Small House development. The requirement for the design and construction of the septic tank and soakaway systems of Small House development to comply with relevant standards and regulations is the existing administrative measure to ensure that there would be no adverse impact on the environment. To facilitate public understanding, such requirement is specified in paragraph 9.1.7 under the "V" zone of the ES of the draft OZP.

Consultation with the SKNRC and Local Villagers

(i) Prior to the preparation of the draft OZP, the IIR of the Chek Keng Village has been approached and their views/proposals² have been incorporated into the draft OZP No. S/NE-CK/B where appropriate for the Board's consideration in December 2014. The SKNRC and TPDC were consulted on the draft OZP on 7.1.2015 and 14.1.2015 respectively, and will be further consulted after the publication of the draft OZP No. S/NE-CK/1 under section 5 of the Ordinance.

Failure of the Draft OZP to Reflect the Original Intention of the Country Parks Ordinance

(j) The Area falls outside any country parks designated under the Country Parks Ordinance. Nevertheless, in the draft OZP, the general planning intention of

 $^{^2}$ A meeting with the IIR of the Chek Keng Village and his consultants was conducted on 5.11.2014 to briefly exchange views on their preliminary land use proposals. On 13.11.2014, the IIR of the Chek Keng Village made a submission.

the Area is to protect its high conservation and landscape value which complements the overall naturalness and the landscape beauty of the surrounding Country Park. It is also intended to consolidate village development so as to avoid undesirable disturbances to the natural environment and overtaxing the limited infrastructure in the Area. Preparation of the statutory plan does not preclude any future setting up of conservation fund for the Area, which is however outside the purview of the Board. Such proposal has been relayed to relevant Government departments for consideration as appropriate.

Rezoning of 10 to 30m-wide Riparian Buffers along the Streams from "GB" to "GB(1)" or "CA" (Plans 1 and 6)

- (k) There is no EIS in the Area. The riparian zones of the two streams are mainly covered with common native plant species forming a woodland regenerated on abandoned agricultural land. AFCD advises that the "GB" zone is considered appropriate for protection of the riparian zones from development.
- (1) The "GB" zone is a conservation zone with a general presumption against development. In the "GB" zone, any Small House development requires planning permission from the Board, and each case shall be considered on its individual merits. Furthermore, any diversion of streams, filling of land/pond or excavation of land which may cause adverse impacts on the natural environment also requires planning permission from the Board.
- 4.2 In summary, no zoning amendments to the previous draft OZP have been proposed and the land use zonings on the draft OZP (No. S/NE-CK/B) as highlighted in paragraph 2.2 are considered appropriate.
- 4.3 Minor refinements to the Notes and ES are highlighted (*bold and italics* for addition and eross out for deletion) at Annex II and III respectively for Members' easy reference.

5 <u>CONSULTATION</u>

The TPDC and SKNRC will be consulted after the Board's agreement to the publication of the draft Chek Keng OZP under section 5 of the Ordinance during the exhibition period of the OZP.

6. **DECISION SOUGHT**

Members are invited to:

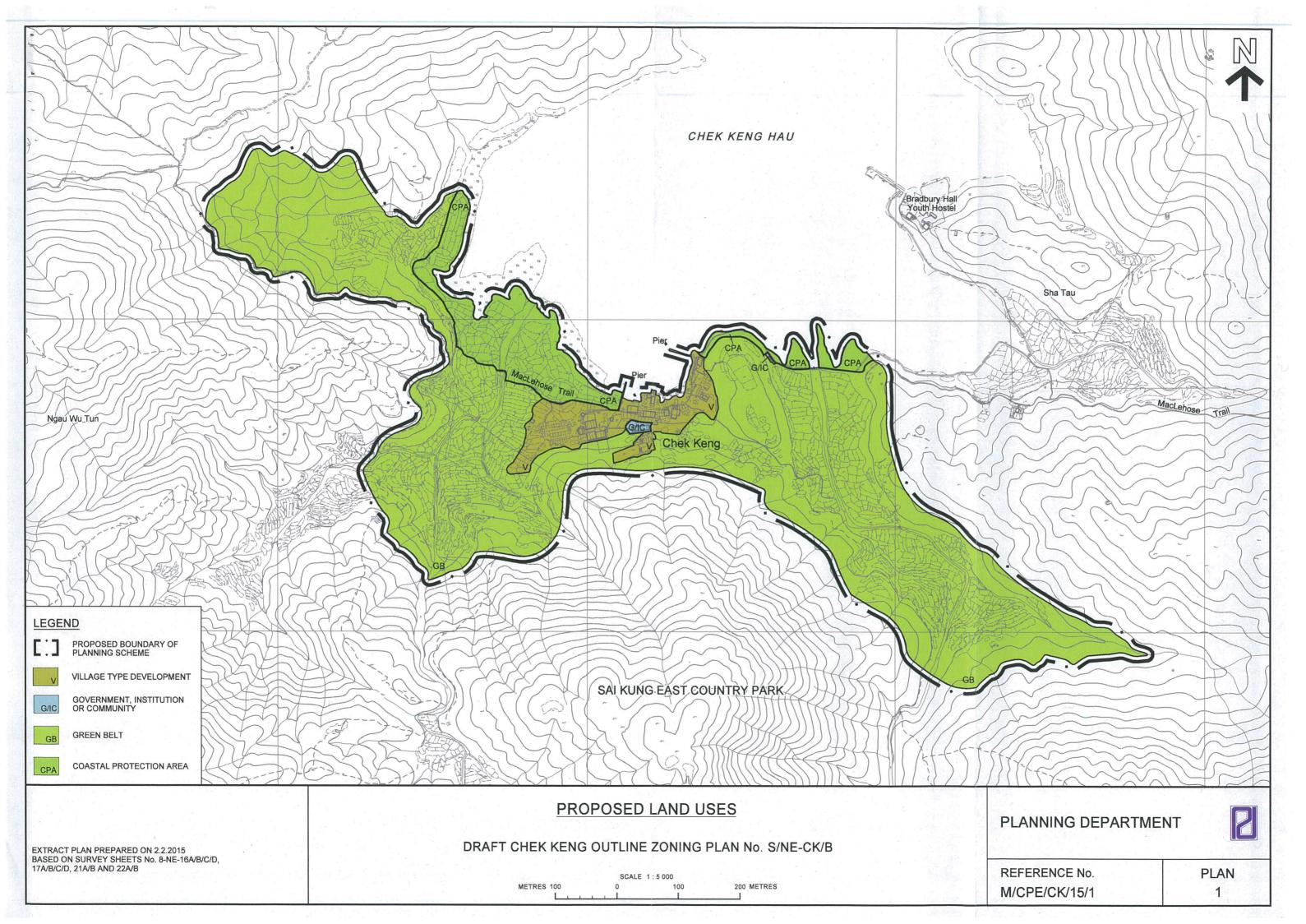
- (a) note the comments from and responses to the TPDC, SKNRC, and the green and concern groups on the draft Chek Keng OZP No. S/NE-CK/B;
- (b) agree that the draft Chek Keng OZP (to be renumbered as S/NE-CK/1 upon gazetting) and its Notes (**Annexes I and II**) are suitable for exhibition for public inspection under section 5 of the Ordinance;

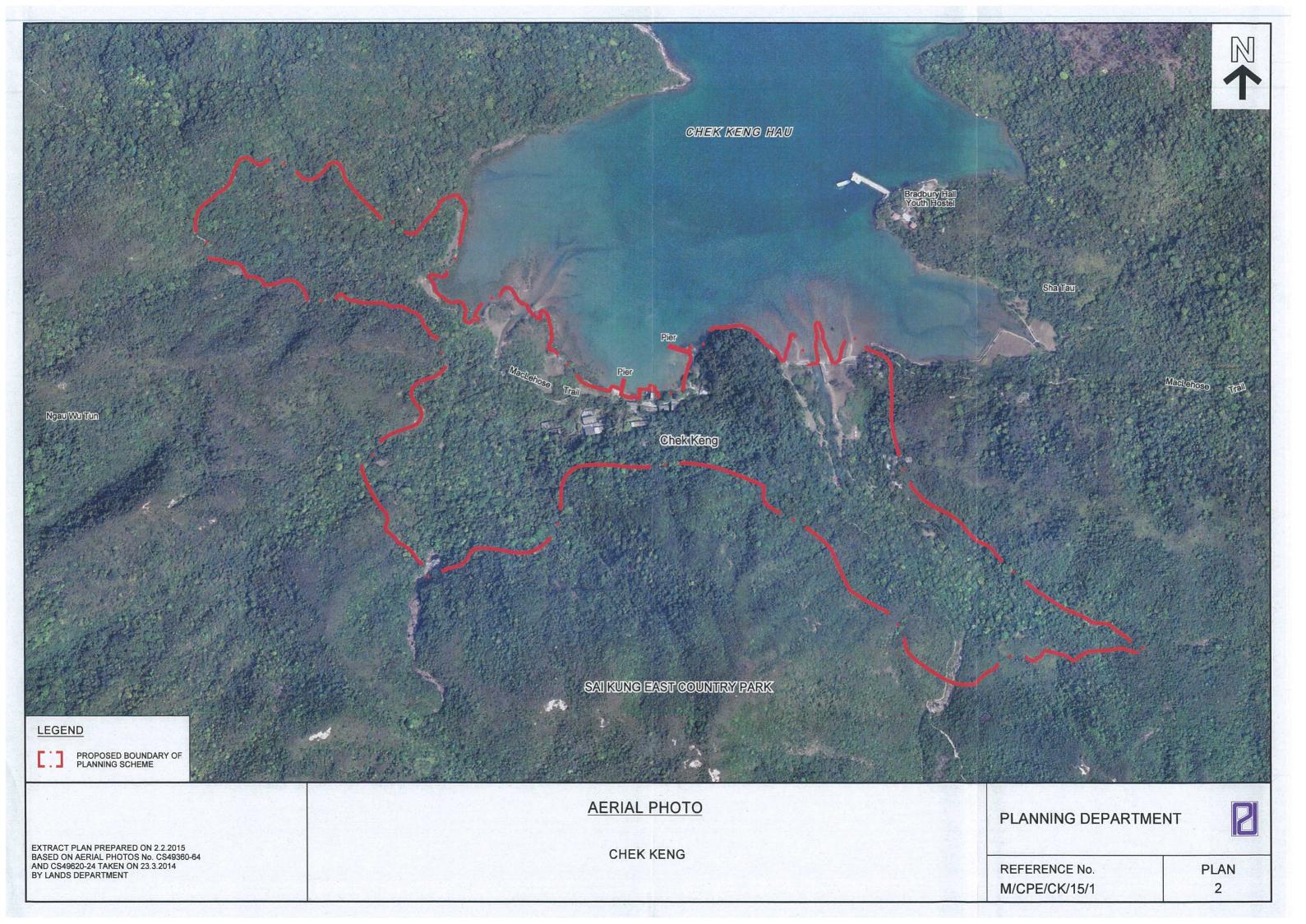
- (c) adopt the ES (Annex III) as an expression of the planning intentions and objectives of the Board for various land use zonings of the draft Chek Keng OZP No. S/NE-CK/B; and
- (d) agree that the ES is suitable for exhibition for public inspection together with the draft OZP and issued under the name of the Board.

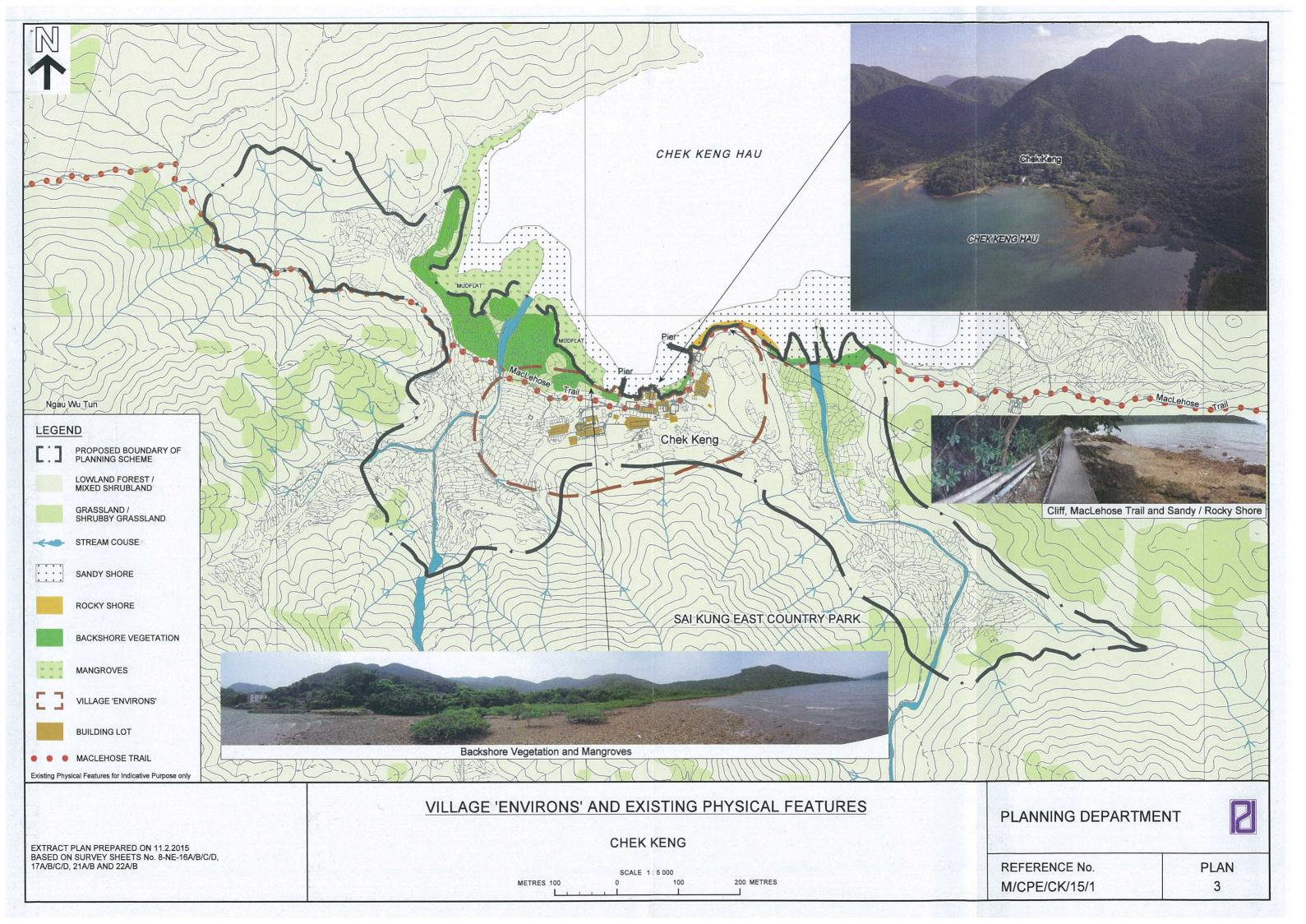
7. <u>Attachments</u>

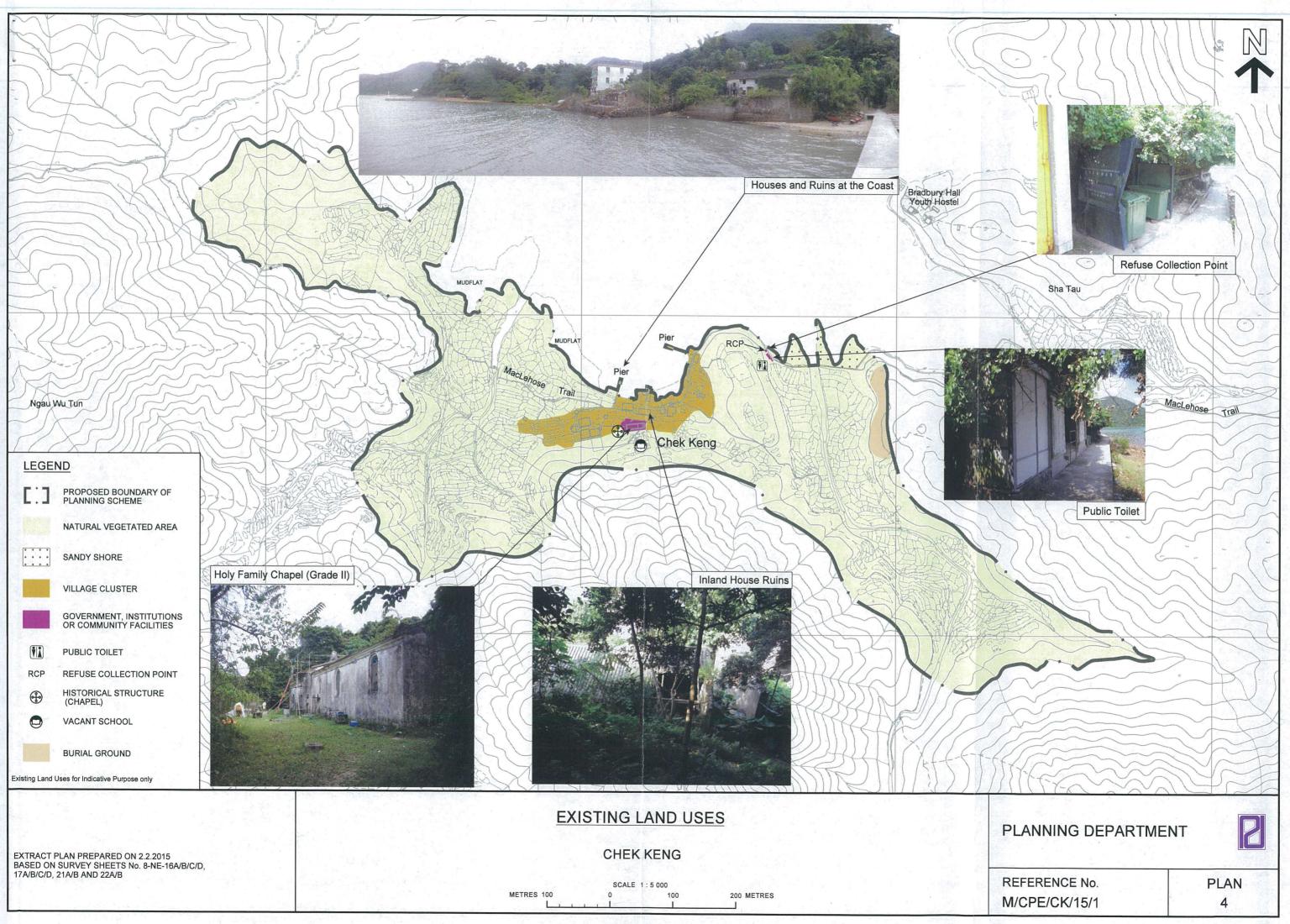
Plan 1	Proposed Land Uses of the Draft Chek Keng OZP No. S/NE-CK/B
Plan 2	Aerial Photo of Chek Keng
Plan 3	Village 'Environs' and Existing Physical Features in Chek Keng
Plan 4	Existing Land Uses in Chek Keng
Plan 5	Land Ownership and Village 'Environs' in Chek Keng
Plan 6	Development Constraints and Proposed Land Uses
Plan 7	Existing GIC, Infrastructural and Tourism-Related Facilities in and near Chek Keng
Annex I	Draft Chek Keng OZP No. S/NE-CK/B
Annex II	Notes of the Draft Chek Keng OZP No. S/NE-CK/B
Annex III	Explanatory Statement of the Draft Chek Keng OZP No. S/NE-CK/B
Annex IV	Extract of Minutes of the Town Planning Board Meeting held on 19.12.2014
Annex V	Town Planning Board Paper No. 9808 (considered by the Town
	Planning Board on 19.12.2014)
Annex VI	Extract of Draft Minutes of the Tai Po District Council held on 14.1.2015
Annex VII	Submissions from Kadoorie Farm & Botanic Garden Corporation dated 27.1.2015 and 4.2.2015

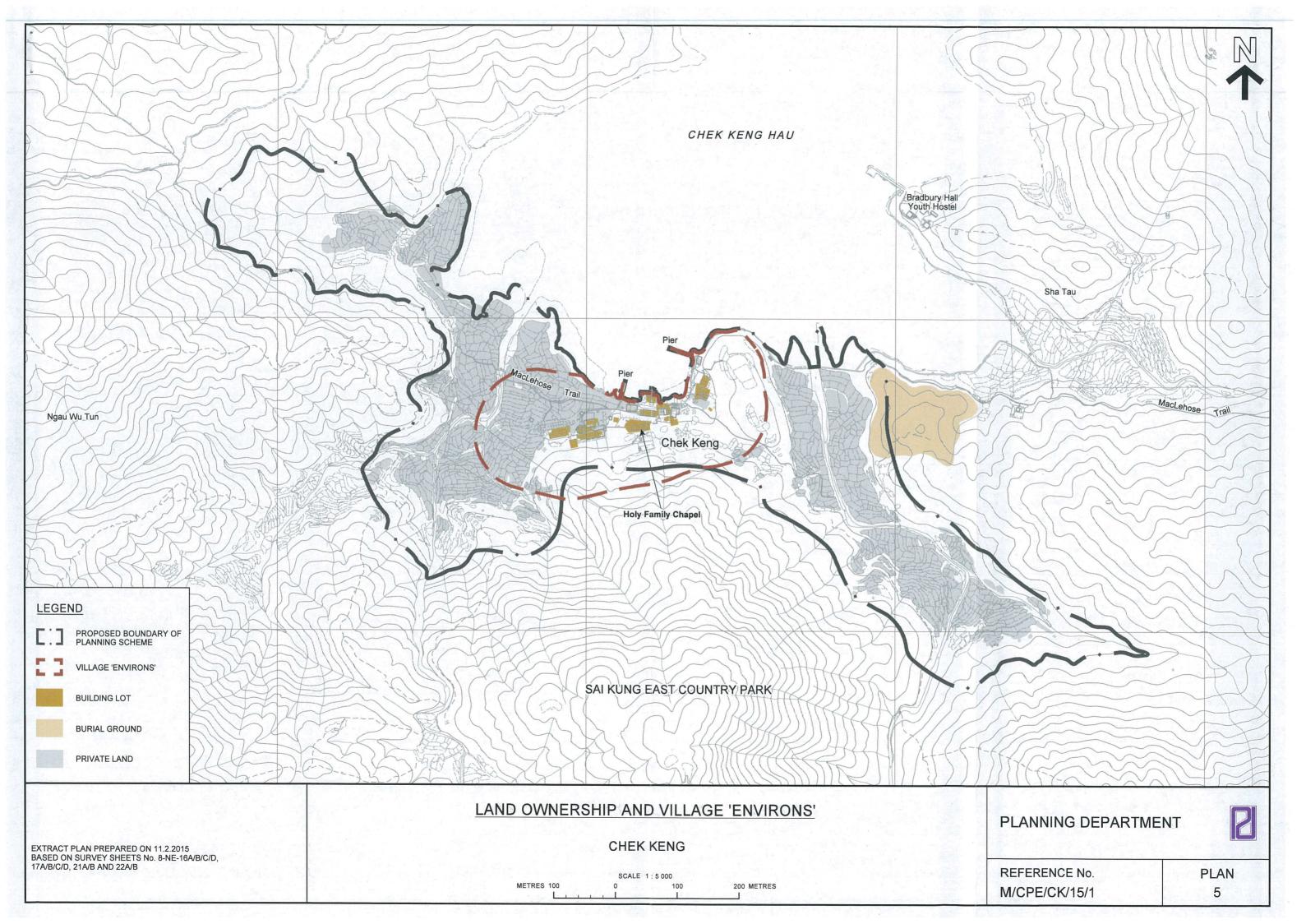
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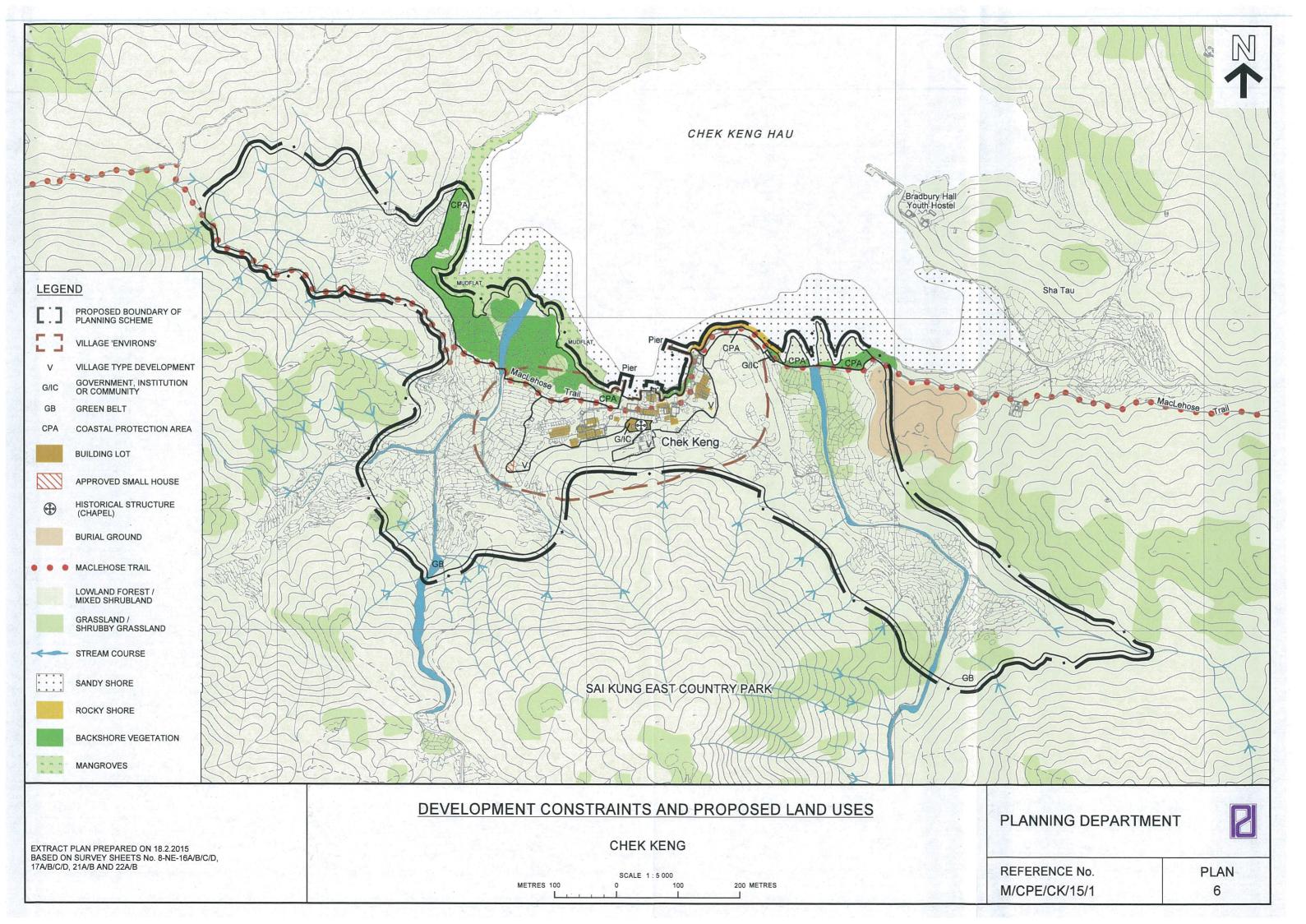


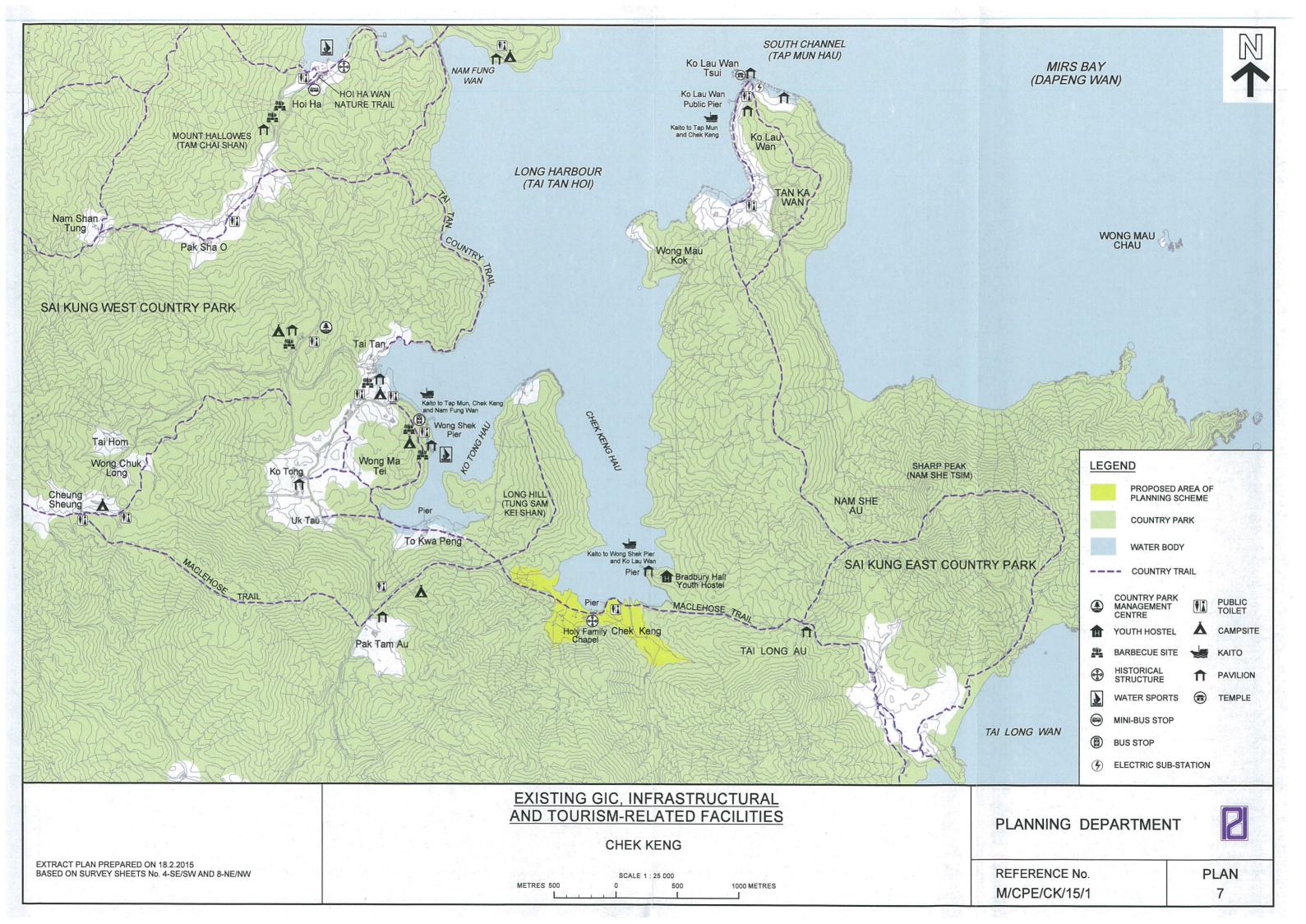


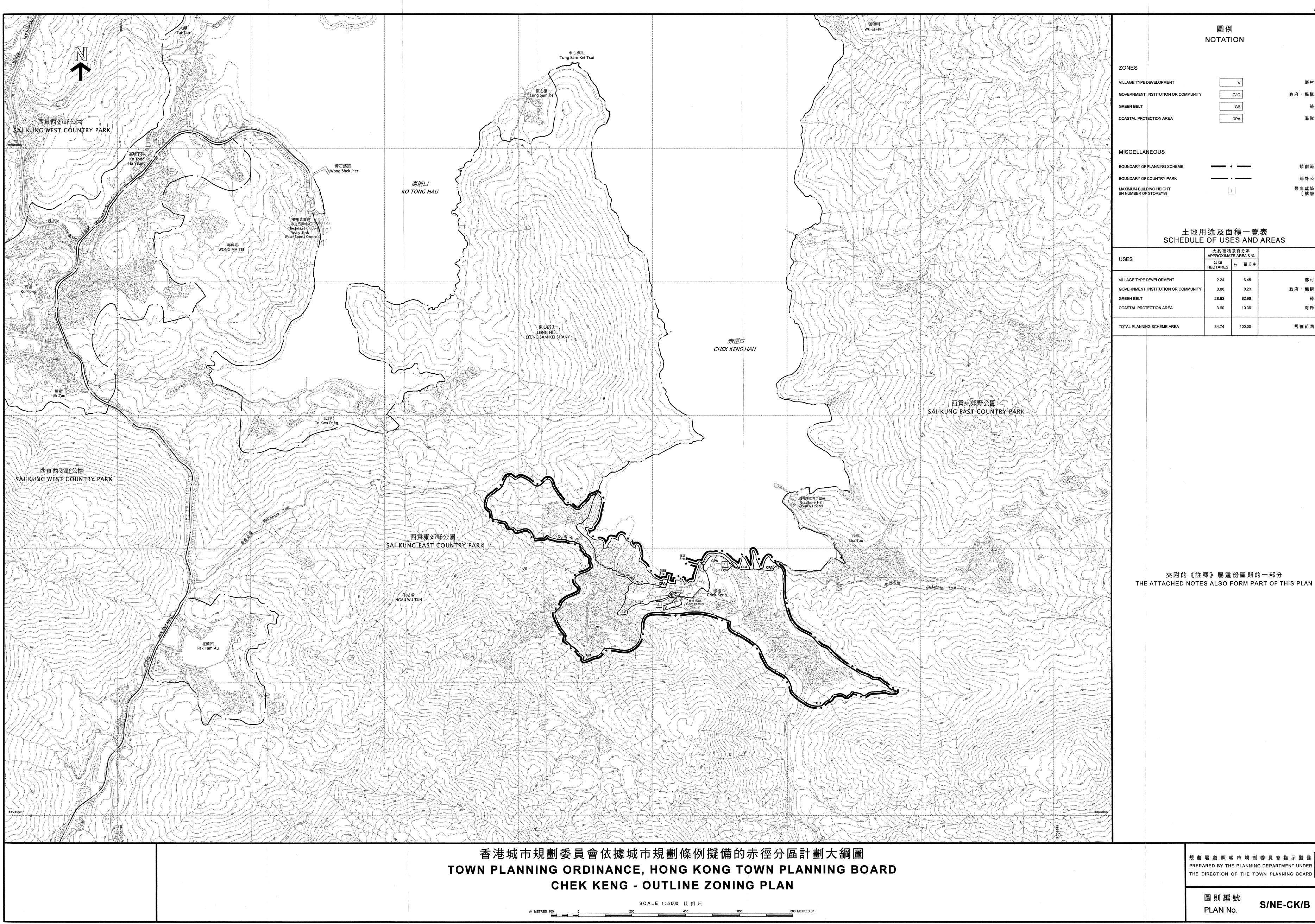












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Annex I
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地帶
   鄉村式發展
政府、機構或社區
    綠化地帶
   海岸保護區
      其他
  規劃範圍界線
  郊野公園界線
最高建築物高度
( 樓層數目 )
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。衣 AREAS	
	用途
	鄉村式發展 政府、機構或社區 綠化地帶 海岸保護區
	規劃範圍總面積



S/NE-CK/B

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B

(Being a Draft Plan for the Purposes of the Town Planning Ordinance)

NOTES

(N.B. These form part of the Plan)

- (1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.
- (2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.
- (3) No action is required to make the use of any land or building which was in existence immediately before the first publication in the Gazette of the notice of the draft development permission area plan conform to this Plan, provided such use has continued since it came into existence. Any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.
- (4) A use or development of any land or building permitted under an earlier draft or approved plan including development permission area plan for the area and effected or undertaken during the effective period of that plan is always permitted under this Plan. Any material change of such use or any other development (except minor alteration and/or modification to the completed development of the land or building which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.
- (5) Except to the extent that paragraph (3) or (4) applies, any use or development falling within the boundaries of the Plan and also within the boundaries of the draft development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without permission from the Town Planning Board.
- (6) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.

- (8) The following uses or developments are always permitted on land falling within the boundaries of the Plan except (a) where the uses or developments are specified in Column 2 of the Notes of individual zones or (b) as provided in paragraph (9) in relation to areas zoned "Coastal Protection Area":
 - (a) maintenance, repair or demolition of a building;
 - (b) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, footpath, bus/public light bus stop or lay-by, cycle track, taxi rank, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;
 - (c) maintenance or repair of road, watercourse, nullah, sewer and drain;
 - (d) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities and waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government;
 - (e) rebuilding of New Territories Exempted House;
 - (f) replacement of an existing domestic building, i.e. a domestic building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, by a New Territories Exempted House; and
 - (g) provision, maintenance or repair of a grave of an indigenous New Territories villager or a locally based fisherman and his family members for which permission has been obtained from Government.
- (9) In areas zoned "Coastal Protection Area",
 - (a) the following uses or developments are always permitted:
 - (i) maintenance or repair of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, road, watercourse, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, shrine and grave;
 - (ii) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and
 - (iii) provision of amenity planting by Government; and

(b) the following uses or developments require permission from the Town Planning Board:

provision of plant nursery, amenity planting (other than by Government), sitting out area, rain shelter, refreshment kiosk, footpath, public utility pipeline, electricity mast, lamp pole, telephone booth and shrine.

(10) In any area shown as 'Road', all uses or developments except those specified in paragraphs (8)(a) to (8)(d) and (8)(g) above and those specified below require permission from the Town Planning Board:

road and on-street vehicle park.

(11) (a) Except in areas zoned "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of two months is always permitted provided that no site formation (filling or excavation) is carried out and that the use or development is a use or development specified below:

structures for carnivals, fairs, film shooting on locations, festival celebrations, religious functions or sports events.

- (b) Except as otherwise provided in paragraph (11)(a), and subject to temporary uses for open storage and port back-up purposes which are prohibited in areas zoned "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board. Notwithstanding that the use or development is not provided for in terms of the Plan, the Town Planning Board may grant permission, with or without conditions, for a maximum period of three years, or refuse to grant permission.
- (c) Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan.
- (12) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.
- (13) In these Notes, unless the context otherwise requires or unless as expressly provided below, terms used in the Notes shall have the meanings as assigned under section 1A of the Town Planning Ordinance.

"Existing building" means a building, including a structure, which is physically existing and is in compliance with any relevant legislation and the conditions of the Government lease concerned.

"New Territories Exempted House" means a domestic building other than a guesthouse or a hotel; or a building primarily used for habitation, other than a guesthouse or a hotel, the ground floor of which may be used as 'Shop and Services' or 'Eating Place', the building works in respect of which are exempted by a certificate of exemption under Part III of the Buildings Ordinance (Application to the New Territories) Ordinance (Cap. 121).

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B

Schedule of Uses

	Page
VILLAGE TYPE DEVELOPMENT	1
GOVERNMENT, INSTITUTION OR COMMUNITY	3
GREEN BELT	5
COASTAL PROTECTION AREA	7

S/NE-CK/B

VILLAGE TYPE DEVELOPMENT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use Government Use (Police Reporting Centre, Post Office only) House (New Territories Exempted House only) On-Farm Domestic Structure Religious Institution (Ancestral Hall only) Rural Committee/Village Office	Burial Ground Eating Place Flat Government Refuse Collection Point Government Use (not elsewhere specified) # Hotel (Holiday House only) House (not elsewhere specified) House (not elsewhere specified) # Market Place of Recreation, Sports or Culture Private Club Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation # Public Vehicle Park (excluding container vehicle) Religious Institution (not elsewhere specified) # Residential Institution # School # Shop and Services Social Welfare Facility # Utility Installation for Private Project

In addition, the following uses are always permitted on the ground floor of a New Territories Exempted House:

Eating Place Library School Shop and Services

(Please see next page)

VILLAGE TYPE DEVELOPMENT (Cont'd)

Planning Intention

The planning intention of this zone is to designate both the existing recognized village and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Town Planning Board.

<u>Remarks</u>

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building (except development or redevelopment to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, whichever is the greater.
- (b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (c) Any diversion of streams or filling of pond, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot Animal Quarantine Centre (in Government building only) Broadcasting, Television and/or Film Studio Eating Place (Canteen, Cooked Food Centre only) Educational Institution Exhibition or Convention Hall Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Institutional Use (not elsewhere specified) Library Market Pier Place of Recreation, Sports or Culture Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Research, Design and Development Centre Rural Committee/Village Office School Service Reservoir Social Welfare Facility Training Centre Wholesale Trade	Animal Boarding Establishment Animal Quarantine Centre (not elsewhere specified) Columbarium Correctional Institution Crematorium Driving School Eating Place (not elsewhere specified) Funeral Facility Holiday Camp House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Private Club Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Residential Institution Sewage Treatment/Screening Plant Shop and Services Utility Installation for Private Project Zoo

GOVERNMENT, INSTITUTION OR COMMUNITY (Cont'd)

Planning Intention

This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.

<u>Remarks</u>

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, whichever is the greater.
- (b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

GREEN BELT

Column 1 Uses always permitted Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

Agricultural Use Barbecue Spot Government Use (Police Reporting Centre only) Nature Reserve Nature Trail On-Farm Domestic Structure Picnic Area Public Convenience Tent Camping Ground Wild Animals Protection Area Animal Boarding Establishment Broadcasting, Television and/or Film Studio **Burial Ground** Columbarium (within a Religious Institution or extension of existing Columbarium only) Crematorium (within a Religious Institution or extension of existing Crematorium only) Field Study/Education/Visitor Centre **Government Refuse Collection Point** Government Use (not elsewhere specified) Helicopter Landing Pad Holiday Camp House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Petrol Filling Station Pier Place of Recreation, Sports or Culture Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation

GREEN BELT (Cont'd)

Column 1 Uses always permitted Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

Religious Institution Residential Institution Rural Committee/Village Office School Service Reservoir Social Welfare Facility Utility Installation for Private Project

Planning Intention

The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.

Remarks

Any diversion of streams, filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

COASTAL PROTECTION AREA

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use (other than Plant Nursery) Nature Reserve Nature Trail On-Farm Domestic Structure Wild Animals Protection Area	Field Study/Education/Visitor Centre Government Use House (Redevelopment only) Public Convenience Public Utility Installation Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation

Planning Intention

This zoning is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It may also cover areas which serve as natural protection areas sheltering nearby developments against the effects of coastal erosion.

There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.

(Please see next page)

COASTAL PROTECTION AREA (Cont'd)

<u>Remarks</u>

- (a) No redevelopment, including alteration and/or modification, of an existing house shall result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan.
- (b) Any diversion of streams, filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

Annex III

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B

EXPLANATORY STATEMENT

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B

EXPLANATORY STATEMENT

<u>CONT</u>	<u>'ENTS</u>	<u>Page</u>
1.	INTRODUCTION	1
2.	AUTHORITY FOR THE PLAN AND PROCEDURE	1
3.	OBJECT OF THE PLAN	2
4.	NOTES OF THE PLAN	2
5.	THE PLANNING SCHEME AREA	2
6.	POPULATION	3
7.	OPPORTUNITIES AND CONSTRAINTS	3
8.	GENERAL PLANNING INTENTION	6
9.	LAND-USE ZONINGS	
	9.1 Village Type Development	6
	9.2 Government, Institution or Community	8
	9.3 Green Belt	8
	9.4 Coastal Protection Area	9
10.	CULTURAL HERITAGE	10
11.	COMMUNICATIONS	10
12.	UTILITY SERVICES	11
13.	IMPLEMENTATION	11
14.	PLANNING CONTROL	11

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B

(Being a Draft Plan for the Purposes of the Town Planning Ordinance)

EXPLANATORY STATEMENT

Note : For the purposes of the Town Planning Ordinance, this statement shall not be deemed to constitute a part of the Plan.

1. **INTRODUCTION**

This Explanatory Statement is intended to assist an understanding of the draft Chek Keng Outline Zoning Plan (OZP) No. S/NE-CK/B. It reflects the planning intention and objectives of the Town Planning Board (the Board) for various land-use zonings of the plan.

2. <u>AUTHORITY FOR THE PLAN AND PROCEDURE</u>

- 2.1 On 14 July 2011, under the power delegated by the Chief Executive (CE), the Secretary for Development (SDEV) directed the Board, under section 3(1)(b) of the Town Planning Ordinance (the Ordinance), to prepare a Development Permission Area (DPA) Plan for the Chek Keng area.
- 2.2 On 4 May 2012, the draft Chek Keng DPA Plan No. DPA/NE-CK/1 was exhibited for public inspection under section 5 of the Ordinance. During the two-month exhibition period, 9 representations were received. On 27 July 2012, the Board published the representations for public comment for three weeks and no comment was received. After giving consideration to the representations on 18 January 2013, the Board decided not to propose any amendment to the draft DPA Plan to meet the representations.
- 2.3 On 30 April 2013, the CE in Council (CE in C), under section 9(1)(a) of the Ordinance, approved the draft Chek Keng DPA Plan, which was subsequently renumbered as DPA/NE-CK/2. On 10 May 2013, the approved Chek Keng DPA Plan No. DPA/NE-CK/2 was exhibited for public inspection under section 9(5) of the Ordinance.
- 2.4 On 16 October 2014, under the power delegated by the CE, the SDEV directed the Board, under section 3(1)(a) of the Ordinance, to prepare an OZP to cover the Chek Keng area.
- 2.5 On XX XXX 2015, the draft Chek Keng OZP No. S/NE-CK/B (the Plan) was exhibited for public inspection under section 5 of the Ordinance.

3. <u>OBJECT OF THE PLAN</u>

- 3.1 The object of the Plan is to indicate the broad land-use zonings for the area of Chek Keng so that development and redevelopment within the area of Chek Keng can be put under statutory planning control. It also provides the planning framework for preparing more detailed non-statutory plans which form the basis for public works planning and site reservation for various uses.
- 3.2 The Plan is to illustrate the broad principles of development and planning control only. It is a small-scale plan and the road alignments and boundaries between the land-use zones may be subject to minor alterations as detailed planning proceeds.

4. <u>NOTES OF THE PLAN</u>

- 4.1 Attached to the Plan is a set of Notes which shows the types of uses or developments which are always permitted within the Planning Scheme Area (the Area) and in particular zones and which may be permitted by the Board, with or without conditions, on application. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land-use planning and control of development to meet the changing needs.
- 4.2 For the guidance of the general public, a set of definitions that explains some of the terms used in the Notes may be obtained from the Technical Services Division of the Planning Department and can be downloaded from the Board's website at <u>http://www.info.gov.hk/tpb/</u>.

5. <u>THE PLANNING SCHEME AREA</u>

- 5.1 The Area, covering a total area of about 34.74 ha, is surrounded by the Sai Kung East Country Park except where it fronts onto Chek Keng Hau in the north, one of the sea bays along the northern coast of the Country Park.
- 5.2 MacLehose Trail traverses the Area from east to west, largely dividing the lower seaside area mainly with natural coastline and features to its north from the higher landside area with a village cluster and vegetated slopes/valleys to its south.
- 5.3 Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species. Uncommon plant species have also been found in the Area. The intertidal mudflat supporting various species of mangroves and a high diversity of mangrove fauna can be found straddling the edge of the Area and the sea. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition

between the mangroves and the woodland.

- 5.4 Fronting onto the sea bay with the village situated in its central part and two natural streams flowing through the valleys, the Area forms a continuous scenic belt at the Chek Keng Hau along the MacLehose Trail. In general, the Area is natural and rural in character and has high landscape and scenic value.
- 5.5 The Chek Keng Village is the only recognized village within the Area. The village houses are mostly abandoned with many in dilapidated condition or become ruins. The Holy Family Chapel (聖家小堂), built in 1874 and now vacant, is a Grade 2 historic building worthy of preservation. There is a permitted burial ground on the hillslopes along the northeastern edge of the Area.

6. <u>POPULATION</u>

According to the 2011 Census, the total population of the Area was about 30 persons. It is expected that the total planned population of the Area would be about 330 persons mainly attributed to village expansion.

7. <u>OPPORTUNITIES AND CONSTRAINTS</u>

7.1 <u>Opportunities</u>

7.1.1 Conservation and Natural Landscape

Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species. Uncommon plant species have also been found in the Area. The intertidal mudflat supporting various species of mangroves and a high diversity of mangrove fauna can be found straddling the edge of the Area and the sea. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Fronting onto the sea bay with the village situated in its central part and two natural streams flowing through the valleys, the Area forms a continuous scenic belt at the Chek Keng Hau along the MacLehose Trail. In general, the Area is natural and rural in character, has high landscape and scenic value. It is worthy of conservation while the scale of the village development should be compatible with the surrounding landscape and rural setting.

7.1.2 Tourism, Recreation and Agriculture Potential

The popular MacLehose Trail traverses the Area, connecting it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south. There are a variety of recreational facilities in the nearby Sai Kung East and West Country Parks, including a network of hiking trails, 13 camp sites, 36 barbecue sites (including the Pak Tam Chung Barbecue Site for the Disabled) and the Pak Tam Chung Visitor Centre. The Bradbury Hall Youth Hostel is in close proximity to the northeast of the Area and the Jockey Club Wong Shek Water Sports Centre is located near Wong Shek Pier, which is accessible by boats from Chek Keng. There is little agricultural activity in the Area. Although the extensive abandoned farmland in the Area should possess potential for agricultural activities, as most of these areas have already been turned into shrubland or woodland after being abandoned for decades, clearance of vegetation will be required to return the land for agricultural activities.

7.2 <u>Constraints</u>

7.2.1 Ecological Significance

Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species, such as Aquilaria sinensis (十沉香) and Cibotium barometz (金毛狗). Uncommon plant species such as Zanthoxylum ailanthoides (樁葉花椒) and Zoysia sinica (中華結縷草) have also been found in the Area. The intertidal mudflat straddling the edge of the Area and the sea supports seven species of mangroves including the uncommon Heritiera littoralis (銀 葉樹) and a high diversity of mangrove fauna. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Dominant flora species include the Paliurus ramosissimus (馬甲子), Hibiscus tiliaceus (黃槿) and Cerbera manghas (海杧果). The backshore vegetation areas are ecologically linked with mangroves and provide habitats for Sesarmine Crabs. The two natural streams in the eastern and western parts of the Area flow through the valleys from south to north into the sea. There is neither fung shui woodland nor Ecologically Important Stream (EIS) in the Area, and the terrestrial habitats consist largely of common native plant species. From the nature conservation perspective, developments that may adversely affect the natural character and the ecologically sensitive areas will not be recommended.

7.2.2 Landscape Character

With reference to the 'Landscape Value Mapping of Hong Kong (2005)', the Area is characterized as settled valley landscape of high landscape and scenic value complementing the overall naturalness and landscape beauty of the surrounding Sai Kung East Country Park. The second section of MacLehose Trail, a popular hiking trail of Hong Kong, passes through the Area. Most of the natural landscape is largely undisturbed, and the important landscape resources include woodland on steep rolling slopes, streams, low-lying abandoned agricultural land, mudflats, sandy/rocky shore with cliff, estuarine areas with mangroves/backshore vegetation, and some feature trees with high amenity value in the village and near the Holy Family Chapel. From the landscape planning perspective, any large scale development with associated utilities installation and slope formation work is not compatible with the existing landscape context. Furthermore, sufficient landscape buffer should be provided to significant landscape resources in the Area.

7.2.3 <u>Cultural Heritage</u>

The Holy Family Chapel (聖家小堂) is a Grade 2 historic building worthy of preservation. Prior consultation with the Antiquities and Monuments Office of the Leisure and Cultural Services Department should be made if any development, redevelopment or rezoning proposals might affect the above graded historic building and its immediate environs.

7.2.4 <u>Burial Grounds</u>

A large piece of permitted burial ground for indigenous villagers is located on the hillslopes along the northeastern fringe of the Area. Whilst the majority of the burial ground lies outside the Area and within the Country Park, its western part lies within the Area and is not suitable for any development.

7.2.5 <u>Transportation</u>

The Area is not served by any vehicular access and is only accessible by walking trails, including the popular MacLehose Trail which connects it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south. Part of the MacLehose Trail is within the Area. It is a popular hiking trail and should be maintained for free public access and preserved from developments in the future. There are two small piers near the village and another pier to the northeast of the Area. The Area is also accessible by boats from the nearby Wong Shek, or from the more distant Ma Liu Shui, Tai Po.

7.2.6 <u>Sewerage</u>

There is no existing or planned public sewer for the Area. Any increase in population or number of visitors to the Area or further recreation/residential developments will require additional facilities.

7.2.7 Other Infrastructure and Utility Services

The Area is provided with electricity and telephone services. Potable water supply has been provided to the existing facilities and village houses in the Area. However, there is no existing or planned drainage system in the Area.

7.2.8 <u>Geotechnical Constraint</u>

The Area is located below steep natural terrain with a long history of instability and may be affected by potential natural terrain landslide hazards. For developments within the Area, natural terrain hazard studies may be required to ascertain the scale of the hazards and to provide suitable hazard mitigation measures, if found necessary, as part of the developments.

8. <u>GENERAL PLANNING INTENTION</u>

- 8.1 The Area forms an integral part of the natural system of the adjoining Sai Kung East Country Park with a wide spectrum of natural habitats including, inter alia, woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves which should be preserved and protected. In general, the Area is natural and rural in character and has high landscape and scenic value. The general planning intention of the Area is to protect its high conservation and landscape value which complements the overall naturalness and the landscape beauty of the surrounding Country Park.
- 8.2 Apart from the environmental and ecological considerations, development in the Area is constrained by limited transport and infrastructural provisions. It is also intended to consolidate village development so as to avoid undesirable disturbances to the natural environment and overtaxing the limited infrastructure in the Area.

9. <u>LAND-USE ZONINGS</u>

- 9.1 <u>"Village Type Development" ("V")</u> : Total Area 2.24 ha
 - 9.1.1 The planning intention of this zone is to designate both the existing recognized village and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more

orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Board.

- 9.1.2 Chek Keng is the only recognized village in the Area. The boundaries of the "V" zone are drawn up having regard to the village 'environs', the number of outstanding Small House applications, Small House demand forecast, local topography and site constraints. Areas of difficult terrain, dense vegetation, stream courses and burial grounds have been avoided as far as possible.
- 9.1.3 No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft DPA plan, whichever is the greater. Application for minor relaxation of these restrictions would be considered by the Board based on individual merits, taking into account site constraints, innovative architectural design and planning merits that would enhance the amenity of the locality.
- 9.1.4 As diversion of streams or filling of pond may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works.
- 9.1.5 In accordance with the Environment, Transport and Works Bureau's Technical Circular (Works) No. 5/2005, under the current administrative practice, development proposals/submissions that may affect natural streams/rivers, the approving/processing authorities at various stages of the development should consult and collate comments from the AFCD and relevant authorities and incorporate relevant comments/advice as conditions of approval wherever possible. Accordingly, LandsD, when processing Small House grant and applications in close proximity to existing stream courses, should consult concerned departments including AFCD, Environmental Protection Department (EPD) and PlanD to ensure that all relevant departments would have adequate opportunity to review and comment on the applications.
- 9.1.6 The "V" zone in the Area is located below steep natural terrain with a long history of instability and may be affected by potential natural terrain landslide hazards. For development within the Area, the developer(s) may be required to carry out natural terrain hazard study

and to provide suitable hazard mitigation measures, if found necessary, as part of the development.

9.1.7 There is no existing or planned public sewer for the Area. For Small House development, the design and construction of the septic tank and soakaway systems need to comply with relevant standards and regulations, such as EPD's Practice Note for Professional Persons (ProPECC PN) 5/93 – "Drainage Plans subject to Comment by the Environmental Protection Department", for the protection of the water quality of the Area.

9.2 <u>"Government, Institution or Community"</u> ("G/IC") : Total Area 0.08ha

- 9.2.1 The planning intention of this zone is primarily for the provision of GIC facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.
- 9.2.2 The major existing GIC facilities under this zone include a public toilet and a refuse collection point along MacLehose Trail in the eastern part of the Area, as well as the Holy Family Chapel at the southern fringe of Chek Keng Village.
- 9.2.3 To preserve the rural and low-rise character of the Area as well as provide spatial and visual relief, development/redevelopment within this zone should be restricted to a maximum building height as stipulated on the Plan (i.e. one storey) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft DPA plan, whichever is greater.
- 9.2.4 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction may be considered by the Board through the planning permission system. Each application will be considered on its individual planning merits.
- 9.3 <u>"Green Belt" ("GB")</u> : Total Area 28.82ha
 - 9.3.1 The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.
 - 9.3.2 The "GB" zone comprising mainly woodlands, shrublands, grasslands and streams, can provide a buffer between the village type developments and the Sai Kung East Country Park and conserve the natural and rural character of the Area.

- 9.3.3 The "GB" zone also comprises the western part of the permitted burial ground on the hillslopes along the northeastern fringe of the Area. It has been in existence for many years, and is considered as existing use intended for the burial of deceased indigenous villagers in the Area. To respect the local ritual and tradition, burial activities within this zone are generally tolerated.
- 9.3.4 There is a general presumption against development within this zone. Development in this zone will be strictly controlled. Development proposals will be considered by the Board on individual merits taking into account the relevant Town Planning Board Guidelines.
- 9.3.5 As diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works.
- 9.4 <u>Coastal Protection Area ("CPA")</u>: Total Area 3.60 ha
 - 9.4.1 This zone is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It may also cover areas which serve as natural protection areas sheltering nearby developments against the effects of coastal erosion. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.
 - 9.4.2 This zone mainly covers the coastal area along Chek Keng Hau to the north of MacLehose Trail (with the exception of a few houses and ruins at the existing village cluster) and the cliff of the vegetatetd knoll to the south of the trail. It primarily consists of sandy/rocky shore with cliff, backshore vegetation, mangroves and stream estuaries. The intertidal mudflat straddling the edge of the Area and the sea supports seven species of mangroves including the uncommon *Heritiera littoralis* (銀 葉樹) and a high diversity of mangrove fauna. Backshore vegetation is ecologically linked with mangroves and provides habitats for Sesarmine Crabs. This zone can also provide a buffer between the adjoining village area and the marine environment.

- 9.4.3 New residential development is not permitted under this zone. Redevelopment of existing houses may be permitted on application to the Board. The redevelopment of existing houses shall not result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication of the draft DPA Plan.
- 9.4.4 Diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on adjacent areas and adverse impacts on the natural environment. In view of the conservation value of the area within this zone, permission from the Board is required for such activities.

10. <u>CULTURAL HERITAGE</u>

- 10.1 The Holy Family Chapel (聖家小堂), built in 1874, is a Grade 2 historic building worthy of preservation. The Chapel marks the endeavours of Catholic missionaries and their influence on village development in Tai Po from the 19th century to the early 20th century. In the years of the Japanese Occupation (1941-1945), the Chapel was used as a guerrilla base against the Occupation. In late 1980s, the Chapel was turned into a youth camp. It is now vacant.
- 10.2 The Antiquities Advisory Board (AAB) also released a number of new items in addition to the list of 1,444 historic buildings. These items are subject to the grading assessment by the AAB. Details of the list of 1,444 historic buildings and its new items have been uploaded onto the website of the AAB at <u>http://www.aab.gov.hk</u>.
- 10.3 Prior consultation with the Antiquities and Monuments Office of the Leisure and Cultural Services Department should be made if any development, redevelopment or rezoning proposals might affect the above graded historic building/structure, new items pending grading assessment and its/their immediate environs.

11. <u>COMMUNICATIONS</u>

Transport Network

The Area is not served by any vehicular access and is only accessible by walking trails, including the popular MacLehose Trail which connects it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south. Part of the MacLehose Trail is within the Area. It is a popular hiking trail and should be maintained for free public access and preserved from developments in the future. There are two small piers near the village and another pier to the northeast of the Area. The Area is also accessible by boats from the nearby Wong Shek, or from the more distant Ma Liu Shui, Tai Po.

12. <u>UTILITY SERVICES</u>

The Area is provided with electricity and telephone services. Potable water supply has been provided to the existing facilities and village houses in the Area. There are no existing or planned drainage and sewerage systems for the Area.

13. <u>IMPLEMENTATION</u>

- 13.1 The Plan provides a broad land-use framework for development control and implementation of planning proposals for the Area. More detailed plans will be prepared as a basis for public works planning and private developments.
- 13.2 At present, there is no overall programme for the provision of infrastructure within the Area. The implementation process will be gradual and may stretch over a long period of time depending on the availability of resources. It will be undertaken through the participation of both public and private sectors.
- 13.3 Notwithstanding the above, minor improvement works, e.g. access improvement and laying of utility services will be implemented through the Public Works Programme as and when resources are available. Private developments will be effected principally through private sector initiatives to develop or redevelop their properties in accordance with the zoned uses indicated on the Plan, provided that their proposals meet Government requirements.

14. <u>PLANNING CONTROL</u>

- 14.1 The types of permitted developments and uses on land within the Area are listed in the Notes of the Plan. Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted developments and uses within the same zone are always permitted and no separate permission is required.
- 14.2 Uses of land or building which were in existence immediately before the first publication in the Gazette of the notice of the draft DPA Plan and which are not in compliance with the terms of the Plan may have adverse impacts on the environment, drainage and traffic of the Area. Although no action is required to make such use conform to this Plan, any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or, if permission is required, in accordance with a permission granted by the Board. The Board will consider these applications on their individual merits. Those alteration and/or modification works which may lead to an environmental improvement or upgrading to the Area may be considered favourably by the Board.
- 14.3 Planning applications to the Board will be assessed on individual merits. In general, the Board, in considering the planning applications, will take into

account all relevant planning considerations including guidelines published by the Board. Guidelines published by the Board are available from the Board's website, the Secretariat of the Board and the Technical Services Division of the Planning Department. Application forms and Guidance Notes for planning applications can be downloaded from the Board's website, and are available from the Secretariat of the Board, and the Technical Services Division and the relevant District Planning Office of the Planning Department. Applications should be supported by such materials as the Board thinks appropriate to enable it to consider the applications.

14.4 Any development, other than those referred to in this paragraph above or in conformity with this Plan or with the permission of the Board, undertaken or continued on land included in this Plan on or after the date of the first publication in the Gazette of the Notice of the draft DPA Plan may be subject to enforcement proceedings under the Ordinance. Any diversion of streams, filling of land/pond and excavation of land in the relevant zones on or after the date of the first publication in the Gazette of the Notice of the Notice of the draft DPA Plan without permission from the Board may also be subject to enforcement proceedings. Moreover, there is a presumption against filling of ponds for temporary land uses/developments in conservation-related zonings, such as "CPA".

TOWN PLANNING BOARD DECEMBER 2014MARCH 2015

Annex IV

Agenda Item 5

[Open Meeting]

Draft Chek Keng Outline Zoning Plan No. S/NE-CK/B – Preliminary Consideration of a New Plan

(TPB Paper 9808)

[The meeting was conducted in Cantonese.]

166. Mr C.K. Soh, District Planning Officer/Sha Tin, Tai Po and North District, Planning Department (DPO/STN, PlanD) and Ms Channy C. Yang, Senior Town Planner/Country Park Enclave, PlanD were invited to the meeting at this point.

167. The Chairman extended a welcome and invited DPO/STN to brief Members on the Paper. With the aid of a Powerpoint presentation, Ms Yang made a presentation as detailed in the Paper covering the following main points:

Background

(a)

on 4.5.2012, the draft Chek Keng Development Permission Area (DPA) Plan No. DPA/NE-CK/1 was exhibited for public inspection under section 5 of the Town Planning Ordinance (the Ordinance). On 30.4.2013, the draft DPA plan was approved by the Chief Executive in Council after completion of the plan-making process;

(b) pursuant to section 20(5) of the Ordinance, the Chek Keng DPA Plan was effective for a period of three years until 4.5.2015. An OZP had to be prepared to replace the DPA Plan to maintain statutory planning control;

(c) on 16.10.2014, the Secretary for Development directed the Board, under section 3(1)(a) of the Ordinance, to prepare an Outline Zoning Plan (OZP) to cover the Chek Keng area (the Area);

Planning Context

- (d) the Area, covering a total area of about 34.74 ha, was a Country Park enclave surrounded by the Sai Kung East Country Park except where it fronted onto Chek Keng Hau in the north (one of the sea bays along the northern coast of the Country Park). The Area was only accessible by walking trails and boats;
- (e) the Maclehose Trail traversed the Area from east to west, largely dividing the lower seaside area mainly with natural coastline and features to its north from the higher landside area with a village cluster and vegetated slopes/valleys to its south;
- (f) the Area formed an integral part of the natural system of the adjoining Sai Kung East Country Park with a wide spectrum of natural habitats including, inter alia, woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves which should be preserved and protected;
- (g) Chek Keng Village was the only recognised village in the Area. According to the 2011 Census, it had a total population of about 30 persons. There was a permitted burial ground on the hillslopes along the northeastern edge of the Area. 62% of the land in the Area was government land and 38% was private land. The village houses in the Area were abandoned or in dilapidated conditions;
- (h) the Holy Family Chapel in the Area was built in 1874 and currently vacant. It was a Grade 2 historic building worthy of preservation;

Issues Arising from Consideration of DPA Plan

 green/concern groups suggested that ecologically important areas should be protected by "Conservation Area" ("CA") and "Coastal Protection Area" ("CPA") zonings; that "Village Type Development" ("V") zones should be limited to avoid adverse impacts; and to incorporate the Area into the Country Park;

- (j) villagers including the Indigenous Inhabitant Representative (IIR) of Chek Keng Village proposed a development plan for a variety of land uses which included expansion of the "V" zones and that a comprehensive development proposal would be submitted to the Board. The Sai Kung North Rural Committee (SKNRC) proposed that the "V" zone should tally with the village 'environs';
- (k) on 18.1.2013, the Board considered the representations and decided not to propose any amendment to the draft DPA Plan to meet the representations. It was agreed that detailed land use zonings would be worked out during the OZP preparation stage taking account of the results of relevant assessments on various aspects including Small House demand and developments, conservation value, the environmental and infrastructural constraints, and landscape character etc. in consultation with relevant stakeholders;

Development Proposals Received in the Course of Preparation of the Plan

- as at December 2014, since the gazettal of the draft DPA Plan on
 4.5.2012, no planning application within the Area had been received by
 the Board;
- (m) on 7.10.2014, Kadoorie Farm & Botanic Garden (KFBG) made a submission to PlanD which included a report on "Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves" and land use proposal for the Area. According to KFBG's submission, the woodlands, watercourses and riparian zones, mangroves and backshore vegetation, and riparian grasslands in the Chek Keng study area were of high conservation importance and should be covered by an appropriate land use zoning such as the "CA" zone under the planning system. It

was proposed that the Government should consider incorporating the Chek Keng Country Park enclave, or areas of high conservation importance therein, into the Country Park;

- on 13.11.2014, the IIR of Chek Keng Village submitted a preliminary (n) He considered that the area of the "V" land use proposal to PlanD. zone in the DPA Plan was insufficient to meet the Small House demand and proposed to expand the "V" zone to the east and west along the two natural streams. Other preliminary land use proposals mainly included: village hotels, a tourism facility for the seniors and disabled, and a university specialized in environmental protection and organic farming; proposed "Agriculture" zone along the eastern side of the eastern stream; proposed "Recreation" zone in the western part of the Area for holiday resorts; proposed "CA" zone for the Holy Family Chapel and its immediate environs; two strips of 10m-wide "CPA" zone near the two small piers along the coast; a 10m-wide buffer zone on both sides of the two natural streams; and a central sewage treatment system for the Area. The IIR indicated that he would submit a detailed report including development proposals as well as tree and ecological appraisals in due course;
- (o) the land use planning considerations as detailed in paragraph 9 of the Paper were presented;

Land Use Proposals

(p) after taking into account the above, the land use proposals for the draftOZP were as follows:

Planning Intention

 the general planning intention of the Area was to protect its high conservation and landscape value which complemented the overall naturalness and the landscape beauty of the surrounding [Mr H.W. Cheung left the meeting at this point.]

Land Use Zoning Proposals

- (ii) "V" zone the updated outstanding Small House application of 20 in 2014 and the 10-year Small House Demand forecast of 254 provided by the IIR were adopted. Land required for meeting the new Small House demand was estimated to be 6.85 ha. A total of 2.24 ha of land was zoned "V" on the draft OZP mainly covering the existing village cluster of Chek Keng Village and the adjoining area. About 1.04 ha of land was available to meet new demand for Small Houses (i.e. 15.2% of new demand). Diversion of stream and filling of ponds in "V" zone required planning permission from the Board;
- (iii) "Government, Institution or Community" ("G/IC") zone a total of 0.08 ha of land was zoned "G/IC" on the draft OZP. The major existing Government, institution and community facilities under this zone included a public toilet and a refuse collection point along MacLehose Trail as well as the Holy Family Chapel (a Grade 2 historic building) at the southern fringe of Chek Keng Village;
- (iv)

"Green Belt" ("GB") zone - a total of 28.82 ha of land was zoned "GB" on the draft OZP. The "GB" zone comprising mainly woodlands, shrublands, grasslands and streams, could provide a buffer between the village type developments and the Sai Kung East Country Park and conserve the natural and rural character of the Area. The "GB" zone also comprised the western part of the permitted burial ground on the hillslopes along the northeastern fringe of the Area. The burial ground had been in existence for many years, and was considered as an existing use for the burial of deceased indigenous villagers in the Area; and

- "CPA" zone a total of 3.6 ha of land was zoned "CPA" on the (v) draft OZP. This zone mainly covered the coastal area along Chek Keng Hau to the north of MacLehose Trail (with the exception of a few houses and ruins at the existing village cluster) and the cliff of the vegetated knoll to the south of the trail. It primarily consisted of sandy/rocky shore with cliff, backshore vegetation, mangroves and stream estuaries. This zone could also provide a buffer between the adjoining village environment. New residential area and the marine under this zone. development was not permitted Redevelopment of existing houses might be permitted on application to the Board. Diversion of streams, filling of land/pond or excavation of land required permission from the Board;
- (q) the draft OZP together with its Notes and Explanatory Statement had been circulated to relevant government bureaux and departments and their comments had been incorporated as appropriate. The draft OZP would be submitted to the Tai Po District Council (TPDC) and SKNRC for consultation. Their comments would be submitted to the Board for further consideration prior to the publication of the draft OZP; and
- (r) Members were asked to agree that the draft OZP No. S/NE-CK/B together with the Notes and Explanatory Statement were suitable for consultation with TPDC and SKNRC.

168. Mr K.K. Ling, Director of Planning, asked about the rationale for delineating the western boundary of the "V" zone. Mr Soh said that the Agricultural, Fisheries and

Conservation Department (AFCD) and the Chief Town Planner/Urban Design and Landscape of PlanD indicated that the area to the southeast of the village cluster, which was currently overgrown with dense vegetation, should be excluded from the "V" zone currently designated on the DPA plan. Hence, an area between the village cluster and Maclehose Trail to the west of the "V" zone on the DPA Plan, which was mainly covered with shrubs and younger trees, was included in the "V" zone in the draft OZP. The western boundary of the "V" zone was mainly delineated based on the boundaries of the farmland and private land lots. The total area of the "V" zone in the draft OZP was the same as that on the DPA plan.

169. Mr Ling further asked whether there was any active agricultural land in Chek Keng. In response, Mr Soh said that according to their consultation with AFCD and their site visit, there was no active agricultural land in the Area. The fallow agricultural land was mainly covered with grass or shrubs.

170. A Member asked whether sufficient buffer had been provided between the "CPA" and "V" zone. Mr Soh said that the delineation of the "V" and "CPA" zones mainly followed the MacLehose Trail. The "V" zone boundary covered land on the southern side of the MacLehose Trail which was on a formed platform where most of the houses, which were mainly abandoned with many in dilapidated conditions or in ruins, as well as some approved Small Houses were concentrated. To the north (sea side) of the MacLehose Trail was mainly the lower coastal area zoned "CPA". The difference in topography and the MacLehouse Trail had provided a clear boundary for delineating the two zones.

171. The Vice-chairman asked whether sufficient buffer had been provided for the "CPA" zones protruding in the north-eastern side of the Area. Mr Soh said that the protruding areas zoned "CPA" were mainly sandy shores, the southern boundaries of those "CPA" zones also mainly followed the Maclehose Trail which was a cement-built pedestrian bridge with retaining wall structure at that location. The pedestrian bridge structure clearly delineated the sandy shores in the north from the fallow agricultural land and stream course to its south.

172. After deliberation, the Board <u>agreed</u> that the draft Chek Keng OZP No. S/NE-CK/B together with the Notes and Explanatory Statement were suitable for consultation with TPDC and SKNRC. After consultation, comments from TPDC and SKNRC would be submitted to the Board for consideration prior to publication of the draft

OZP under section 5 of the Ordinance.

TOWN PLANNING BOARD

TPB PAPER NO. 9808 FOR CONSIDERATION BY THE TOWN PLANNING BOARD ON 19.12.2014

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B PRELIMINARY CONSIDERATION OF A NEW PLAN

TPB Paper No. 9808 For Consideration by the Town Planning Board on 19.12.2014

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B PRELIMINARY CONSIDERATION OF A NEW PLAN

1. <u>Purpose</u>

The purpose of this paper is to seek Members' agreement:

- (a) that the draft Chek Keng Outline Zoning Plan (OZP) No. S/NE-CK/B (the Plan)
 (Appendix I) together with its Notes (Appendix II) are suitable for consultation with the Tai Po District Council (TPDC) and Sai Kung North Rural Committee (SKNRC); and
- (b) that the Explanatory Statement (ES) (**Appendix III**) is an expression of the planning intentions and objectives of the Town Planning Board (the Board) for the various land use zonings of the draft OZP and is suitable for consultation with the TPDC and SKNRC together with the draft OZP.

2. <u>Background</u>

- 2.1 On 4.5.2012, the draft Chek Keng Development Permission Area (DPA) Plan No. DPA/NE-CK/1 was exhibited for public inspection under section 5 of the Town Planning Ordinance (the Ordinance). During the two-month exhibition period, nine representations were received. On 27.7.2012, the representations were published for three weeks for public comment and no comment was received. After giving consideration to the representations on 18.1.2013, the Board decided not to propose any amendment to the draft DPA plan to meet the representations.
- 2.2 On 30.4.2013, the Chief Executive in Council (CE in C), under section 9(1)(a) of the Ordinance, approved the draft Chek Keng DPA plan, which was subsequently renumbered as DPA/NE-CK/2. On 10.5.2013, the approved Chek Keng DPA Plan No. DPA/NE-CK/2 was exhibited for public inspection under section 9(5) of the Ordinance.
- 2.3 Pursuant to section 20(5) of the Ordinance, the Chek Keng DPA Plan is effective for a period of three years until 4.5.2015. An OZP has to be prepared to replace the DPA Plan in order to maintain statutory planning control over the Chek Keng area upon expiry of the DPA Plan.
- 2.4 On 16.10.2014, under the power delegated by the Chief Executive, the Secretary for Development directed the Board, under section 3(1)(a) of the Ordinance, to prepare an OZP to cover the Chek Keng area.

3. <u>Strategic Planning Context</u>

- 3.1 The Planning Scheme Area (the Area), covering a total area of about 34.74 ha, is a Country Park Enclave surrounded by the Sai Kung East Country Park except where it fronts onto Chek Keng Hau in the north, one of the sea bays along the northern coast of the Country Park (**Plans 1 to 3**).
- 3.2 With reference to the 'Landscape Value Mapping of Hong Kong (2005)', the Area is characterized as settled valley landscape of high landscape and scenic value complementing the overall naturalness and landscape beauty of the surrounding Sai Kung East Country Park. The second section of MacLehose Trail, a popular hiking trail of Hong Kong, passes through the Area. Most of the natural landscape is largely undisturbed, and the important landscape resources include woodland on steep rolling slopes, streams, low-lying abandoned agricultural land, mudflats, sandy/rocky shore with cliff, estuarine areas with mangroves/backshore vegetation, and some feature trees with high amenity value in the village and near the Holy Family Chapel (Figures 5a and 5b of Appendix IV).
- 3.3 The planning framework for the Area is to protect the natural and scenic character of the Area from uncontrolled development and avoid disturbances to areas with high ecological and landscape value. Details of the land use considerations are contained in the Planning Report on Chek Keng at **Appendix IV**. Some major issues in relation to the proposed zonings are stated below.

4. <u>Issues Arising from Consideration of the DPA Plan</u>

During the exhibition period of the draft DPA Plan, a total of nine representations were received. The major land use proposals raised by the representers are recapitulated below:

- (a) The green concern groups ¹ proposed that conservation zonings such as "Conservation Area" ("CA") and "Coastal Protection Area" ("CPA") should be designated to reflect the ecological value of the Area and protect the natural habitats including woodland, natural streams, natural coastline and coastal natural environment, etc. Some of them suggested that the extent of the "Village Type Development" ("V") zone should be limited to avoid adverse impacts, in particular water pollution, on the natural environment and to incorporate the Area into the Country Park; and
- (b) The Indigenous Inhabitant Representative (IIR) of the Chek Keng Village proposed a development plan for a variety of land uses which included the expansion of the "V" zone and indicated that a comprehensive development proposal would be submitted for the Board's consideration, and SKNRC proposed that the "V" zone should tally with the village 'environs' ('VE').

¹ Green concern groups include Designing Hong Kong Limited, Kadoorie Farm & Botanic Garden Corporation, The Hong Kong Bird Watching Society and World Wide Fund for Nature Hong Kong.

5. <u>Town Planning Board's Decisions and Instructions</u>

On 18.1.2013, the Board decided not to propose any amendment to the draft DPA Plan to meet the representations. It was agreed that detailed land use zonings would be worked out during the OZP preparation stage taking account of the results of relevant assessments on various aspects including Small House demand and developments, conservation value, the environmental and infrastructural constraints, and landscape character, etc in consultation with relevant stakeholders.

6. <u>Object of the Plan</u>

- 6.1 The object of the Plan is to indicate the broad land use zonings for the Area so that development and redevelopment within the Area can be put under statutory planning control. It also provides the planning framework for preparing more detailed non-statutory plans which form the basis for public works planning and site reservation for various uses.
- 6.2 The Plan is to illustrate the broad principles of development and to provide guidance for more detailed planning. It is a small-scale plan, and the boundaries between the land use zones may be subject to minor adjustments as detailed planning and development proceed.

7. The Planning Scheme Area (Plans 1 to 3) (Figures 5 and 6 of Appendix IV)

- 7.1 The Area, covering a total area of about 34.74 ha, is surrounded by the Sai Kung East Country Park except where it fronts onto Chek Keng Hau in the north, one of the sea bays along the northern coast of the Country Park.
- 7.2 MacLehose Trail traverses the Area from east to west, largely dividing the lower seaside area mainly with natural coastline and features to its north from the higher landside area with a village cluster and vegetated slopes/valleys to its south.
- 7.3 Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species. Uncommon plant species have also been found in the Area. The intertidal mudflat supporting various species of mangroves and a high diversity of mangrove fauna can be found straddling the edge of the Area and the sea. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland.
- 7.4 Fronting onto the sea bay with the village situated in its central part and two natural streams flowing through the valleys, the Area forms a continuous scenic belt at the Chek Keng Hau along the MacLehose Trail. In general, the Area is natural and rural in character and has high landscape and scenic value.

7.5 The Chek Keng Village is the only recognized village within the Area. According to the 2011 Census, the total population of the Area was about 30 persons. The village houses are mostly abandoned with many in dilapidated condition or become ruins. The Holy Family Chapel (聖家小堂), built in 1874 and now vacant, is a Grade 2 historic building worthy of preservation. There is a permitted burial ground on the hillslopes along the northeastern edge of the Area.

8. <u>Development Proposals Received in the Course of Preparation of the Plan</u>

- 8.1 As at December 2014, since the gazettal of the draft DPA Plan on 4.5.2012, no planning application within the Area has been received by the Board.
- 8.2 On 7.10.2014, Kadoorie Farm & Botanic Garden Corporation (KFBG) made a submission to Planning Department (PlanD) which includes a report on "Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves" and land use proposal for the Area (**Appendix V**). According to KFBG's submission, the woodlands, watercourses and riparian zones, mangroves and backshore vegetation, and riparian grasslands in the Chek Keng study area² are of high conservation importance and should be covered by an appropriate land use zoning such as the "CA" zone under the planning system. No development incompatible with surrounding areas or the natural heritage of these areas should be authorized. From the ecological and nature conservation perspectives, due to the strong ecological and functional linkages, the Chek Keng Country Park Enclave is very much part of the Country Park system, and thus the Government should consider incorporating it, or areas of high conservation importance therein, into the Country Park.
- 8.3 A meeting with the IIR of Chek Keng Village and his consultants was conducted on 5.11.2014 to briefly exchange views on their preliminary land use proposals. On 13.11.2014, the IIR of Chek Keng Village submitted a preliminary land use proposal to PlanD (Appendix VI). He considers that the area of the "V" zone in the DPA Plan is insufficient to meet the Small House demand and proposes to expand the "V" zone to the east and west along the two natural streams. Other preliminary land use proposals mainly include: (i) three clusters of village hotels in the proposed "V" zone; (ii) the proposed "G/IC" zone on both sides of the eastern stream for a tourism facility for the seniors and disabled and a university specialized in environmental protection and organic farming; (iii) the proposed "Agriculture" zone along the eastern side of the eastern stream; (iv) the proposed "Recreation" zone in the western part of the Area for holiday resorts; (v) the proposed "CA" zone for the Holy Family Chapel and its immediate environs; (vi) two strips of 10m-wide "CPA" zone near the two small piers along the coast; (vii) 10m-wide buffer zone on both sides of the two natural streams; and (viii) a central sewage treatment system for the Area. The IIR indicates that he would submit a detailed report including development proposals as well as tree and ecological appraisals in due course.
 - 8.4 Planning assessment of the proposals is in **Appendix VII**. The views conveyed in these proposals have been taken into account in the preparation of the draft

² This also covers the area 50m from the boundary of the Country Park Enclave.

OZP. Details are in paragraph 9 below.

9. Land Use Planning Considerations (Plan 4)

Conservation of Natural Environment (Figures 5a to 5f of Appendix IV)

- 9.1 Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. MacLehose Trail traverses the Area from east to west, largely dividing the lower seaside area mainly with natural coastline and features to its north from the higher landside area with a village cluster and vegetated slopes/valleys to its south.
- 9.2 To the north (sea side) of MacLehose Trail is mainly the lower coastal area comprising sandy/rocky shore, stream estuaries and areas covered with backshore vegetation, and further to the north are mangroves in the intertidal mudflat straddling the edge of the Area and the sea. The intertidal mudflat supports seven species of mangroves including the uncommon Heritiera littoralis (銀葉樹) and a high diversity of mangrove fauna. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Dominant flora species include the *Paliurus* ramosissimus (馬甲子), Hibiscus tiliaceus (黃槿) and Cerbera manghas (海杧 果). The backshore vegetation areas are ecologically linked with mangroves and provide habitats for Sesarmine Crabs³. There is a protruding vegetated knoll in the eastern section of the coastal front which is flanked by a cliff along the southern side of MacLehose Trail.
- 9.3 It is proposed to zone the above areas as "Coastal Protection Area" ("CPA") in order to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment. It can also provide a buffer between the adjoining village area and the marine environment. Agriculture, Fisheries and Conservation Department (AFCD) considers the "CPA" designation and delineation are appropriate.
- 9.4 Except for the village cluster and some Government, Institution or Community (GIC) facilities, the Area to the south of MacLehose Trail mainly comprises woodlands, shrublands, grasslands and streams. The abandoned agricultural land on both sides of the two natural streams are currently mainly covered by woodland in the upper sections, whereas patches of shrubland and grassland are found in the lower sections. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species, such as *Aquilaria sinensis* (土沉香) and *Cibotium barometz* (金毛狗). Uncommon plant species such as *Zanthoxylum ailanthoides* (椿葉花椒) and *Zoysia sinica* (中華 結縷草) have also been found in the Area. The two natural streams in the eastern and western parts of the Area flow through the valleys from south to north into the sea. There is neither *fung shui* woodland nor Ecologically

³ The diversity of Sesarmine Crabs is indicative to the "intactness" of the mangrove ecosystem.

Important Stream (EIS) in the Area, and the terrestrial habitats consist largely of common native plant species. Having consulted AFCD, it is proposed to zone the above areas as "Green Belt" ("GB") in order to provide a buffer between the village type developments and the Country Park and to conserve the natural and rural character of the Area.

Government, Institution or Community Facilities (Figures 6a, 6c and 6d of Appendix IV)

- 9.5 Major GIC facilities in the Area to meet the community needs include a public toilet and a refuse collection point along MacLehose Trail in the eastern part of the Area. The Holy Family Chapel (聖家小堂) is located at the southern fringe of Chek Keng Village. It was built in 1874 and is a Grade 2 historic building worthy of preservation. In late 1980s, the Chapel was turned into a youth camp and is now vacant. To reflect these GIC facilities, it is proposed to zone these facilities as "Government, Institution or Community" ("G/IC").
- 9.6 Prior consultation with the Antiquities and Monuments Office of the Leisure and Cultural Services Department should be made if any development, redevelopment or rezoning proposals might affect the above graded historic building and its immediate environs.

Land for Village Development (Figures 6 and 10 of Appendix IV)

- 9.7 There have been two divergent views over the designation of "V" zone i.e. to limit the "V" zone as proposed by the green concern groups to avoid adverse impacts on the natural environment versus to expand the "V" zone as proposed by the IIR of Chek Keng Village and SKNRC to meet the Small House demand.
- 9.8 According to the District Lands Officer/Tai Po, Lands Department (DLO/TP, LandsD), there are 20 outstanding Small House applications in the Area and the 10-year Small House demand forecast provided by the IIR of the Chek Keng Village is 254. Based on PlanD's preliminary estimate, land required for meeting the Small House demand of 274 is about 6.85 ha.
- 9.9 With reference to the Small House demand and 'VE' for the recognized village of Chek Keng, PlanD has analyzed the site conditions of the area within 'VE', taking into account of the existing village settlement, previously approved Small House application⁴, environmental conditions, natural terrain and topography. The whole 'VE' of Chek Keng Village has an area of 8.2 ha and its majority with an area of 7.49 ha is included in the boundary of the draft OZP. The existing village cluster is situated in the central part of the 'VE', with a few houses scattered along the coast. Most of the houses are concentrated on the southern side of the MacLehose Trail on platforms formed on hill slope. The village houses are mostly abandoned with many in dilapidated condition or become ruins. Some of the land in the village has been overgrown with dense vegetation, and the remaining area of the 'VE' mainly comprises woodlands.

⁴ DLO/TP has advised that there was a Small House application approved in 2008, and since then, there has not been any other approval. The draft Chek Keng DPA Plan was first gazetted on 4.5.2012.

- the southeast of the village cluster and to the southwest of the Holy Family Chapel, which are currently overgrown with dense vegetation, should be excluded from the original "V" zone in the DPA Plan. On the other hand, an area between the village cluster and MacLehose Trail, which is designated as an "Unpsecified Use" area in the DPA Plan, is mainly covered with shrubs and younger trees and thus can be considered for development of village houses (**Plan 4**).
- 9.11 Given the natural environment, its ecological and landscape value coupled with its limited accessibility due to lack of vehicular access, an incremental approach for designation of "V" zone for Small House development has been adopted with an aim to confining Small House development at suitable locations so as to avoid undesirable disturbances to the natural environment and overtaxing the limited infrastructure in the Area. Discounting the surrounding environmentally sensitive areas, including coastal area, woodland and streams which should be protected, a total of about 2.24 ha of land mainly covering the existing village cluster and its adjoining area has been reserved for Small House development. Within the proposed "V" zone, about 1.04 ha of land is available capable of meeting about 15.2% (41 houses) of the total Small House demand for 274 houses (Table 1). Notwithstanding the above, planning application provides another measure for the villagers to apply for Small House development outside "V" zone subject to the Board's approval.

Small House Demand Figure in 2012		Small House Demand Figure in 2014				Required	Available	Percentage of
Outstandin Demand	10-year g Forecast (2012 – 2021)	Outstanding Demand	10-year Forecast (2014 – 2023)	'VE'Area (ha) ('VE'Area in OZP)	"V" Zone on Draft OZP (ha)	Land to Meet New Demand (ha)	Land to Meet New Demand (ha)	the New Demand met by Available Land
19	Nil*	20	254**	8.2 (7.49)	2.24	6.85	1.04	15.2%

- According to the TPB Paper No. 9068 on Consideration of the Draft Chek Keng DPA Plan No. DPA/NE-CK/C in April 2012, there were 19 outstanding Small House applications and the 10-year Small House demand forecast had not been available since 2007.
- ** On 14.11.2014, DLO/TP advised that on 12.11.2014, the IIR submitted a 10-year Small House demand forecast to DLO/TP and the said forecast figure provided by IIR of Chek Keng was 254. DLO/TP further advised that the said forecast figure was not verified in any way by DLO/TP.

9.10

9.12 There is no existing or planned public sewer for the Area. For Small House development, the design and construction of the septic tank and soakaway systems need to comply with relevant standards and regulations, such as Environmental Protection Department (EPD)'s Practice Note for Professional Persons (ProPECC PN) 5/93 – "Drainage Plans subject to Comment by the Environmental Protection Department", for the protection of the water quality of the Area.

Cultural Heritage

9.13 The Holy Family Chapel (聖家小堂) is a Grade 2 historic building worthy of preservation. Prior consultation with the Antiquities and Monuments Office of the Leisure and Cultural Services Department should be made if any development, redevelopment or rezoning proposals might affect the above graded historic building and its immediate environs.

Transportation

9.14 At present, the Area is not served by any vehicular access and is only accessible by walking trails, including the popular MacLehose Trail which connects it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south. Part of the MacLehose Trail is within the Area. There are two small piers near the village and another pier to the northeast of the Area. The Area is also accessible by boats from the nearby Wong Shek, or from the more distant Ma Liu Shui, Tai Po.

10. <u>Planning Intention</u>

- 10.1 The Area forms an integral part of the natural system of the adjoining Sai Kung East Country Park with a wide spectrum of natural habitats including, inter alia, woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves which should be preserved and protected. In general, the Area is natural and rural in character and has high landscape and scenic value. The general planning intention of the Area is to protect its high conservation and landscape value which complements the overall naturalness and the landscape beauty of the surrounding Country Park.
- 10.2 Apart from the environmental and ecological considerations, development in the Area is constrained by limited transport and infrastructural provisions. It is also intended to consolidate village development so as to avoid undesirable disturbances to the natural environment and overtaxing the limited infrastructure in the Area.

11. Land Use Zonings

- 11.1 <u>"Village Type Development" ("V")</u>: Total Area 2.24 ha
 - 11.1.1 The planning intention of this zone is to designate both the existing

recognized village and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Board.

- 11.1.2 Chek Keng is the only recognized village in the Area. The boundaries of the "V" zone are drawn up having regard to the village 'environs', the number of outstanding Small House applications, Small House demand forecast, local topography and site constraints. Areas of difficult terrain, dense vegetation, stream courses and burial grounds have been avoided as far as possible.
- 11.1.3 As diversion of streams or filling of pond may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works.
- 11.1.4 In accordance with the Environment, Transport and Works Burreau's Technical Circular (Works) No. 5/2005 "Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works", under the current administrative practice, development proposals/submissions that may affect natural streams/rivers, the approving/processing authorities at various stages of the development should consult and collate comments from the AFCD and relevant authorities and incorporate relevant comments/advice as conditions of approval wherever possible. Accordingly, Lands Department (LandsD), when processing Small House grant and applications in close proximity to existing stream courses, should consult concerned departments including AFCD, EPD and PlanD to ensure that all relevant departments would have adequate opportunity to review and comment on the applications. Such requirement has been stated in the ES.
- 11.1.5 The "V" zone in the Area is located below steep natural terrain with a long history of instability and may be affected by potential natural terrain landslide hazards. For development within the Area, the developer(s) may be required to carry out natural terrain hazard study and to provide suitable hazard mitigation measures, if found necessary, as part of the development.
- 11.1.6 There is no existing or planned public sewer for the Area. For Small House development, the design and construction of the septic tank and soakaway systems need to comply with relevant standards and regulations, such as EPD's Practice Note for Professional Persons (ProPECC PN) 5/93 "Drainage Plans subject to Comment by the Environmental Protection Department", for the protection of the water

quality of the Area.

11.2 "Government, Institution or Community" ("G/IC"): Total Area 0.08 ha

- 11.2.1 The planning intention of this zone is primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.
- 11.2.2 The major existing GIC facilities under this zone include a public toilet and a refuse collection point along MacLehose Trail in the eastern part of the Area, as well as the Holy Family Chapel at the southern fringe of Chek Keng Village.
- 11.3 <u>"Green Belt" ("GB")</u>: Total Area 28.82 ha
 - 11.3.1 The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.
 - 11.3.2 The "GB" zone comprising mainly woodlands, shrublands, grasslands and streams, can provide a buffer between the village type developments and the Sai Kung East Country Park and conserve the natural and rural character of the Area.
 - 11.3.3 The "GB" zone also comprises the western part of the permitted burial ground on the hillslopes along the northeastern fringe of the Area. It has been in existence for many years, and is considered as existing use intended for the burial of deceased indigenous villagers in the Area. To respect the local ritual and tradition, burial activities within this zone are generally tolerated.
- 11.4 <u>"Coastal Protection Area" ("CPA")</u> : Total Area 3.60 ha
 - 11.4.1 This zone is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It may also cover areas which serve as natural protection areas sheltering nearby developments against the effects of coastal erosion. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.
 - 11.4.2 This zone mainly covers the coastal area along Chek Keng Hau to the north of MacLehose Trail (with the exception of a few houses and ruins

at the existing village cluster) and the cliff of the vegetated knoll to the south of the trail. It primarily consists of sandy/rocky shore with cliff, backshore vegetation, mangroves and stream estuaries. The intertidal mudflat straddling the edge of the Area and the sea supports seven species of mangroves including the uncommon *Heritiera littoralis* (銀 葉樹) and a high diversity of mangrove fauna. Backshore vegetation is ecologically linked with mangroves and provides habitats for Sesarmine Crabs. This zone can also provide a buffer between the adjoining village area and the marine environment.

- 11.4.3 New residential development is not permitted under this zone. Redevelopment of existing houses may be permitted on application to the Board. Diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on adjacent areas and adverse impacts on the natural environment. In view of the conservation value of the area within this zone, permission from the Board is required for such activities.
- 11.5 The proposed land use pattern of the Area is shown in Figure 12 at Appendix IV. Detailed land use proposals of the Area are set out in paragraph 9 of the ES (Appendix III).

Land Use	Area on approved DPA Plan	Area on the Draft OZP		
Zoning				
"V"	2.24 ha (6.45%)	2.24 ha (6.45%)		
"Unspecified"	32.5 ha (93.55%)	-		
"G/IC"	-	0.08 ha (0.23%)		
"GB"	-	28.82 ha (82.96%)		
"CPA"		3.60 ha (10.36%)		
Total	34.74 ha	34.74 ha		

11.6 A comparison of land use zonings on the approved Chek Keng DPA Plan No. DPA/NE-CK/2 and the draft OZP No. S/NE-CK/B is shown in the table below:

12. Notes of the Plan

- 12.1 Attached to the Plan is a set of Notes which shows the types of uses or developments which are always permitted within the Area and other uses for which planning permission from the Board should be sought. The provision for application for planning permission under section 16 of the Ordinance allows flexibility in land use planning and control of development to meet the changing needs. To provide flexibility for development with design adapted to the characteristics of particular sites, minor relaxation of the specific development restriction(s) stated in the Notes for particular zones may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.
- 12.2 The draft Notes are formulated on the basis of the latest set of Master Schedule of Notes (MSN) endorsed by the Board.

13. Consultation

- 13.1 Prior to the preparation of the draft OZP, the major stakeholders have been approached for their views/proposals. Views from KFBG and the IIR of Chek Keng Village have been incorporated where appropriate. The draft OZP together with its Notes and Explanatory Statement as well as the Planning Report have been circulated to the relevant Government bureaux and departments for comments. Comments received have been incorporated into the draft OZP, its Notes and ES as well as the Planning Report as appropriate.
- 13.2 Subject to the agreement of the Board, the draft OZP No. S/NE-CK/B will be submitted to the TPDC and SKNRC for consultation. Comments from the TPDC and SKNRC will be submitted to the Board for consideration prior to the publication of the draft OZP under section 5 of the Ordinance.

14. <u>Decision Sought</u>

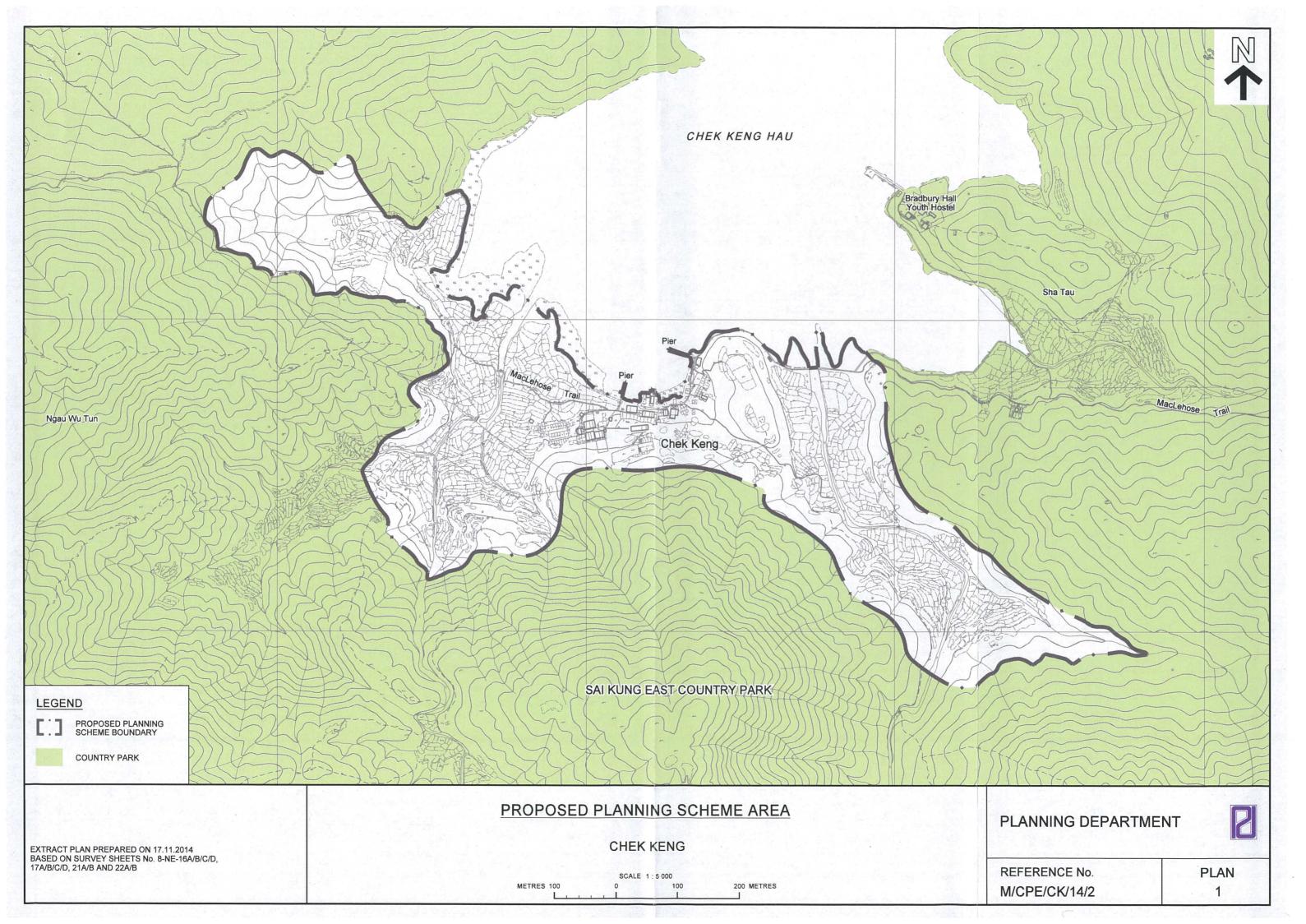
Members are invited to:

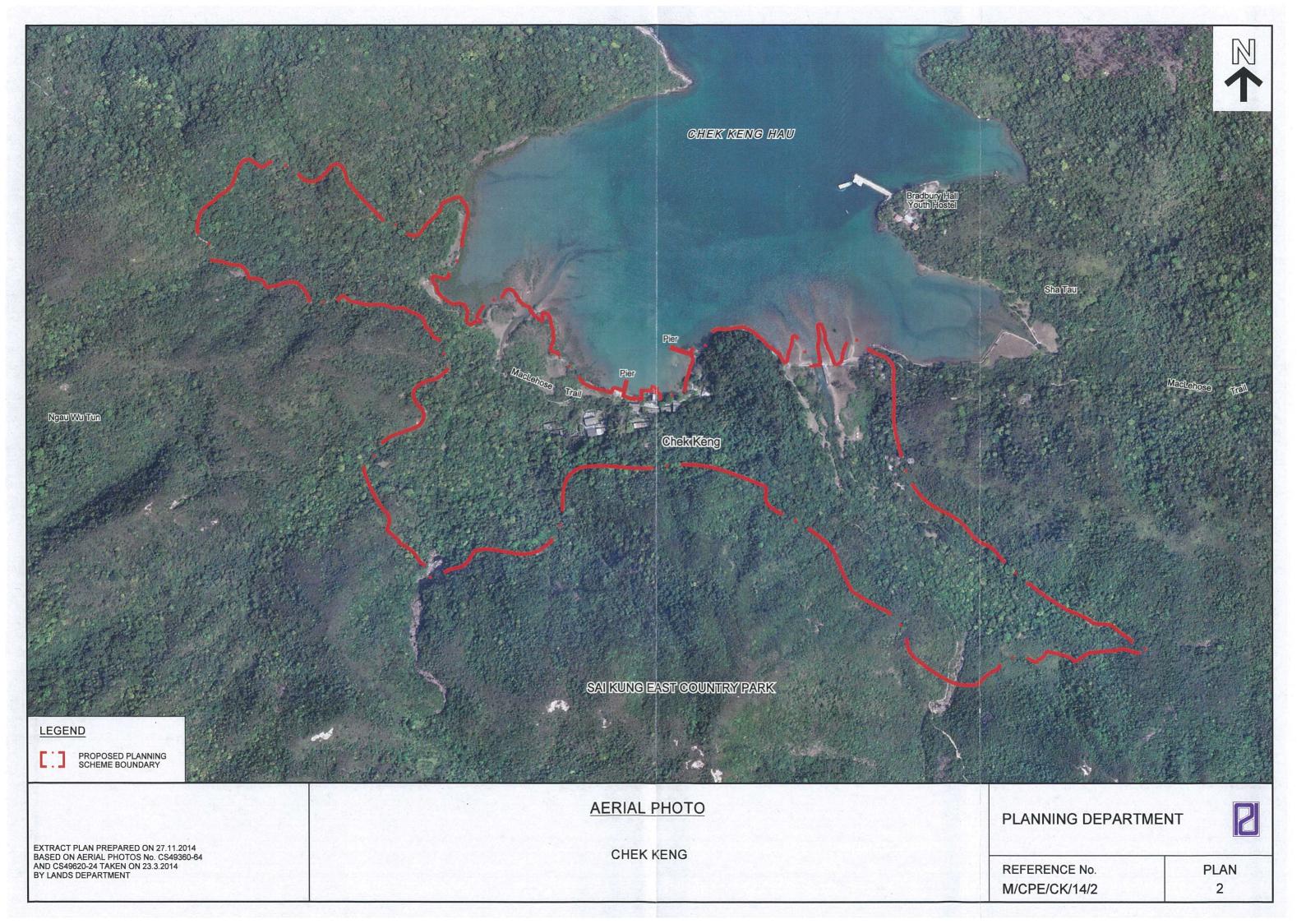
- (a) agree that the draft Chek Keng OZP No. S/NE-CK/B (**Appendix I**) together with its Notes (**Appendix II**) are suitable for consultation with the TPDC and SKNRC;
- (b) agree that the ES (**Appendix III**) is suitable to serve as an expression of the planning intentions and objectives of the Board for various land use zonings of the draft Chek Keng OZP No. S/NE-CK/B and the ES should be issued under the name of the Board; and
- (c) agree that the ES (**Appendix III**) is suitable for consultation with the TPDC and SKNRC together with the draft OZP.

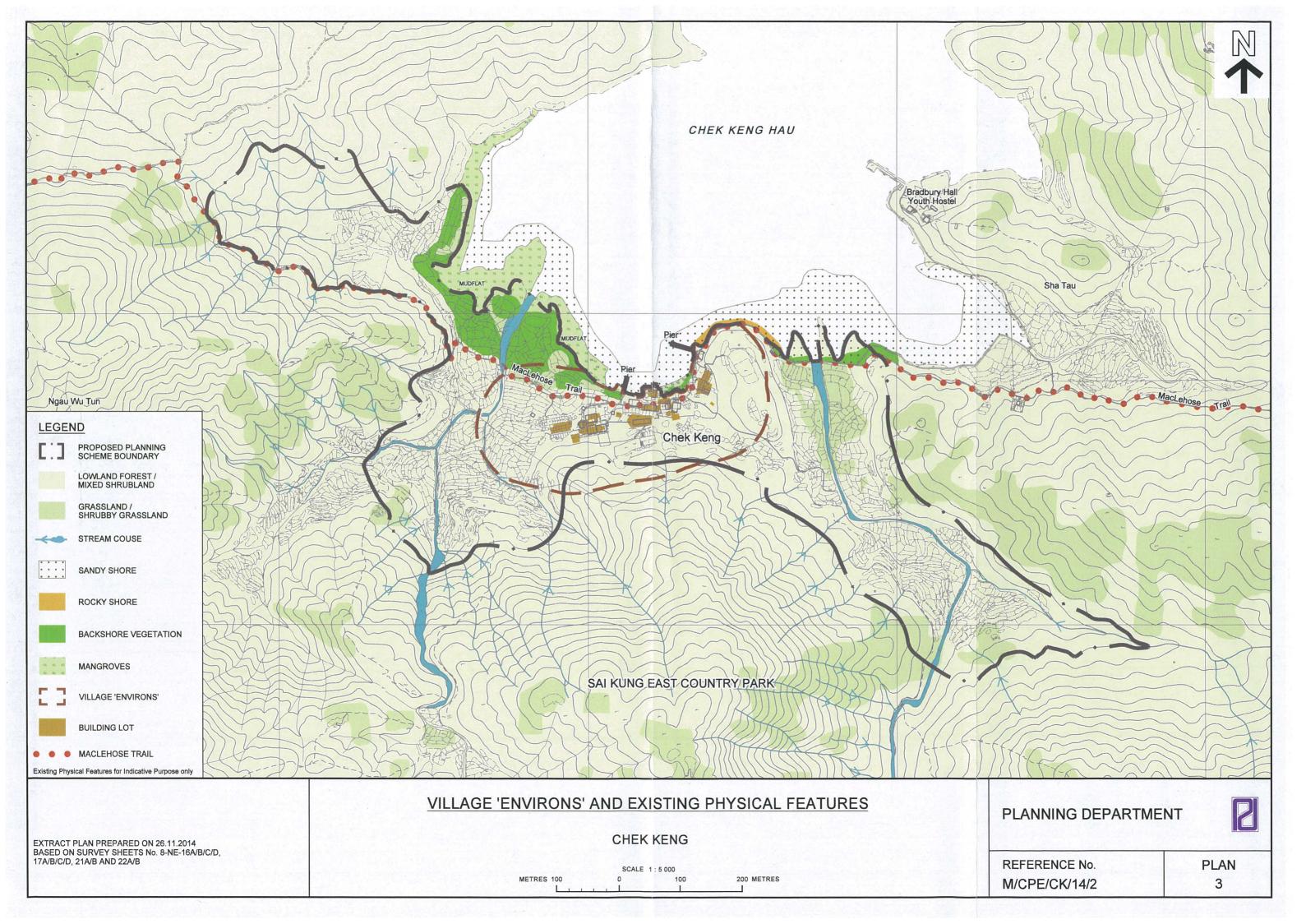
15. <u>Attachments</u>

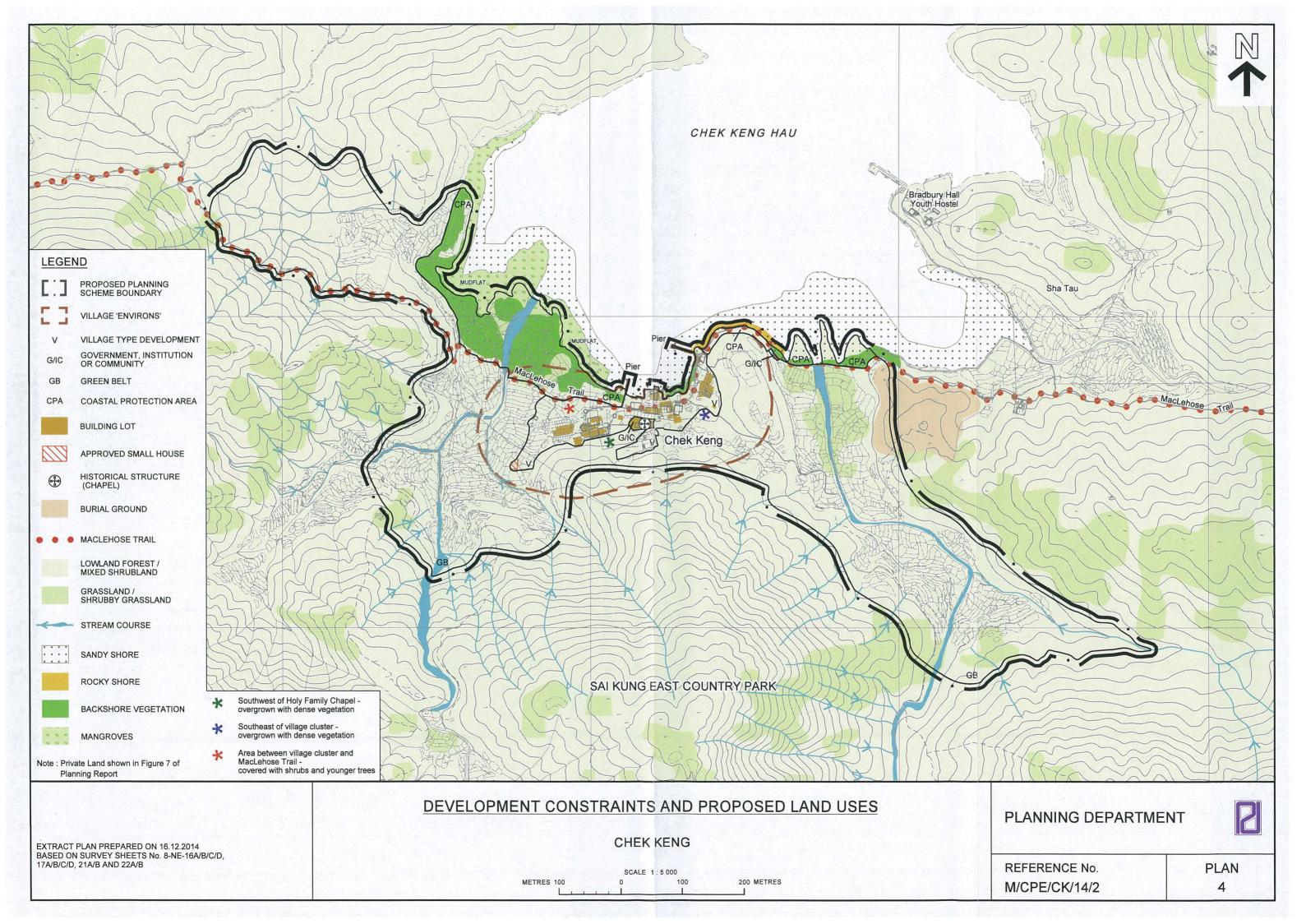
Plan 1	Planning Scheme Area of the Draft Chek Keng OZP
Plan 2	Aerial Photo of Chek Keng
Plan 3	Village Environs and Existing Physical Features of Chek Keng
Plan 4	Development Constraints and Proposed Land Uses
Appendix I	Draft Chek Keng OZP No. S/NE-CK/B
Appendix II	Notes of the Draft Chek Keng OZP No. S/NE-CK/B
Appendix III	Explanatory Statement of the Draft Chek Keng OZP No. S/NE-CK/B
Appendix IV	Planning Report on Chek Keng
Appendix V	Proposal by the Kadoorie Farm & Botanic Garden Corporation (KFBG)
Appendix VI	Proposal by the Indigenous Inhabitant Representative (IIR) of Chek Keng
Appendix VII	Planning Assessment on the Proposals of KFBG and IIR

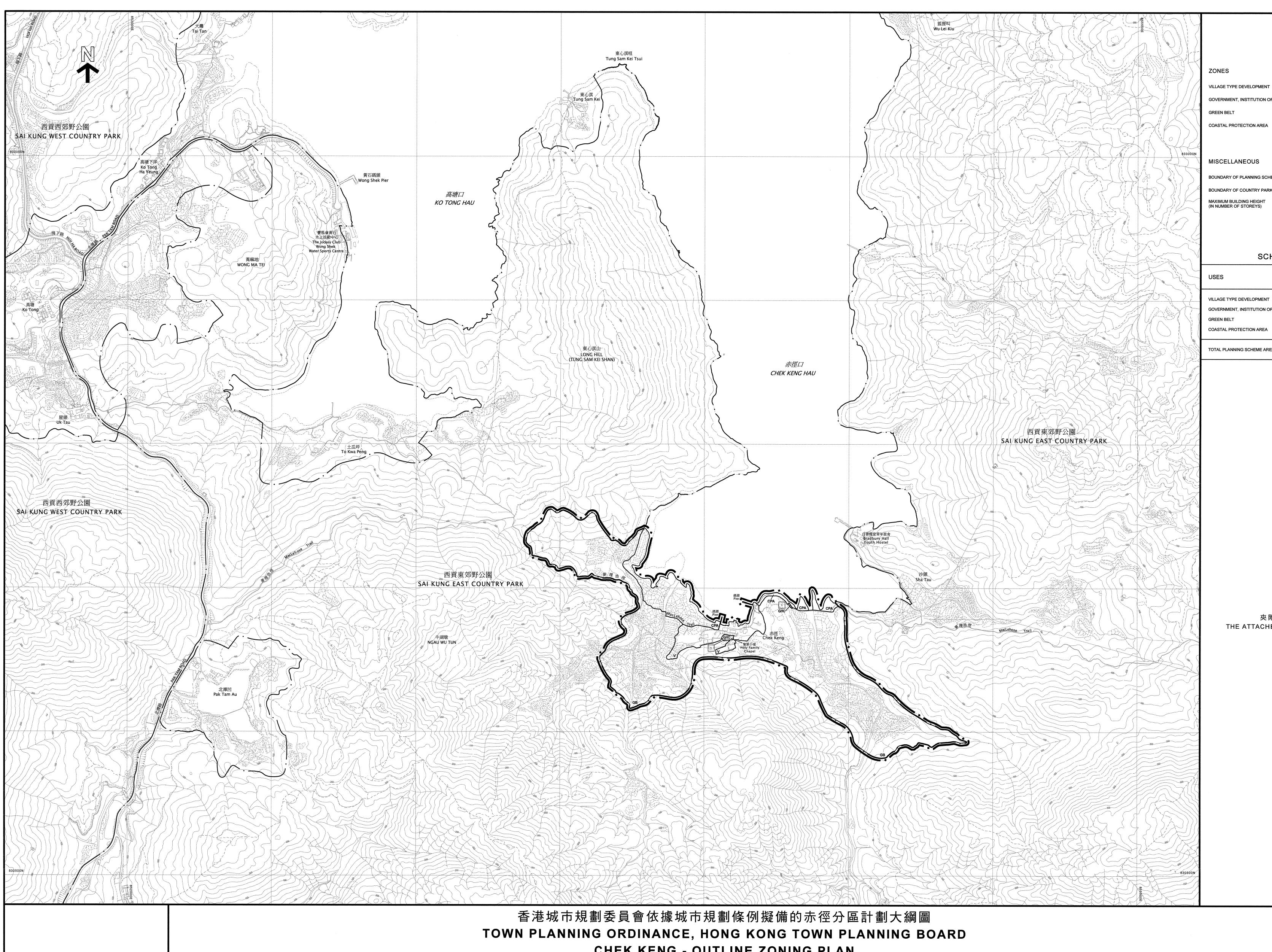
PLANNING DEPARTMENT DECEMBER 2014











CHEK KENG - OUTLINE ZONING PLAN

SCALE 1:5000 比例尺 * METRES 100 0 800 METRES 米 400

圖例 NOTATION GOVERNMENT, INSTITUTION OR COMMUNITY G/IC GB

CPA

MISCELLANEOUS

BOUNDARY OF PLANNING SCHEME	
BOUNDARY OF COUNTRY PARK	-
MAXIMUM BUILDING HEIGHT (IN NUMBER OF STOREYS)	1

土地用途及面積一覽表 SCHEDULE OF USES AND AREAS

USES	大約面積及百分率 APPROXIMATE AREA & %		
0020	公頃 HECTARES	% 百分率	
VILLAGE TYPE DEVELOPMENT	2.24	6.45	
GOVERNMENT, INSTITUTION OR COMMUNITY	0.08	0.23	
GREEN BELT	28.82	82.96	
COASTAL PROTECTION AREA	3.60	10.36	
TOTAL PLANNING SCHEME AREA	34.74	100.00	

夾 附 的 《 註 釋 》 屬 這 份 圖 則 的 一 部 分 THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN

地 帶 鄉村式發展 政 府 、 機 構 或 社 區 綠化地帶 海岸保護區 其他 規劃範圍界線 郊野公園界線 最高建築物高度 (樓層 數目)

Appendix I

用途 鄉村式發展 政 府 、 機 構 或 社 區 綠化地帶 海 岸 保 護 區 規劃範圍總面積



S/NE-CK/B

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B

(Being a Draft Plan for the Purposes of the Town Planning Ordinance)

NOTES

(N.B. These form part of the Plan)

- (1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.
- (2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.
- (3) No action is required to make the use of any land or building which was in existence immediately before the first publication in the Gazette of the notice of the draft development permission area plan conform to this Plan, provided such use has continued since it came into existence. Any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.
- (4) A use or development of any land or building permitted under an earlier draft or approved plan including development permission area plan for the area and effected or undertaken during the effective period of that plan is always permitted under this Plan. Any material change of such use or any other development (except minor alteration and/or modification to the completed development of the land or building which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.
- (5) Except to the extent that paragraph (3) or (4) applies, any use or development falling within the boundaries of the Plan and also within the boundaries of the draft development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without permission from the Town Planning Board.
- (6) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.

- (8) The following uses or developments are always permitted on land falling within the boundaries of the Plan except (a) where the uses or developments are specified in Column 2 of the Notes of individual zones or (b) as provided in paragraph (9) in relation to areas zoned "Coastal Protection Area":
 - (a) maintenance, repair or demolition of a building;
 - (b) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, footpath, bus/public light bus stop or lay-by, cycle track, taxi rank, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;
 - (c) maintenance or repair of road, watercourse, nullah, sewer and drain;
 - (d) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities and waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government;
 - (e) rebuilding of New Territories Exempted House;
 - (f) replacement of an existing domestic building, i.e. a domestic building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, by a New Territories Exempted House; and
 - (g) provision, maintenance or repair of a grave of an indigenous New Territories villager or a locally based fisherman and his family members for which permission has been obtained from Government.
- (9) In areas zoned "Coastal Protection Area",
 - (a) the following uses or developments are always permitted:
 - (i) maintenance or repair of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, road, watercourse, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, shrine and grave;
 - geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and
 - (iii) provision of amenity planting by Government; and

(b) the following uses or developments require permission from the Town Planning Board:

provision of plant nursery, amenity planting (other than by Government), sitting out area, rain shelter, refreshment kiosk, footpath, public utility pipeline, electricity mast, lamp pole, telephone booth and shrine.

(10) In any area shown as 'Road', all uses or developments except those specified in paragraphs (8)(a) to (8)(d) and (8)(g) above and those specified below require permission from the Town Planning Board:

road and on-street vehicle park.

(11) (a) Except in areas zoned "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of two months is always permitted provided that no site formation (filling or excavation) is carried out and that the use or development is a use or development specified below:

structures for carnivals, fairs, film shooting on locations, festival celebrations, religious functions or sports events.

- (b) Except as otherwise provided in paragraph (11)(a), and subject to temporary uses for open storage and port back-up purposes which are prohibited in areas zoned "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board. Notwithstanding that the use or development is not provided for in terms of the Plan, the Town Planning Board may grant permission, with or without conditions, for a maximum period of three years, or refuse to grant permission.
- (c) Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan.
- (12) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.
- (13) In these Notes, unless the context otherwise requires or unless as expressly provided below, terms used in the Notes shall have the meanings as assigned under section 1A of the Town Planning Ordinance.

"Existing building" means a building, including a structure, which is physically existing and is in compliance with any relevant legislation and the conditions of the Government lease concerned.

"New Territories Exempted House" means a domestic building other than a guesthouse or a hotel; or a building primarily used for habitation, other than a guesthouse or a hotel, the ground floor of which may be used as 'Shop and Services' or 'Eating Place', the building works in respect of which are exempted by a certificate of exemption under Part III of the Buildings Ordinance (Application to the New Territories) Ordinance (Cap. 121).

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B

Schedule of Uses

	<u>Page</u>
VILLAGE TYPE DEVELOPMENT	1
GOVERNMENT, INSTITUTION OR COMMUNITY	3
GREEN BELT	5
COASTAL PROTECTION AREA	7

S/NE-CK/B

VILLAGE TYPE DEVELOPMENT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use Government Use (Police Reporting Centre, Post Office only) House (New Territories Exempted House only) On-Farm Domestic Structure Religious Institution (Ancestral Hall only) Rural Committee/Village Office	Burial Ground Eating Place Flat Government Refuse Collection Point Government Use (not elsewhere specified) # Hotel (Holiday House only) House (not elsewhere specified) House (not elsewhere specified) # Market Place of Recreation, Sports or Culture Private Club Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation # Public Vehicle Park (excluding container vehicle) Religious Institution (not elsewhere specified) # Residential Institution # School # Shop and Services Social Welfare Facility # Utility Installation for Private Project

In addition, the following uses are always permitted on the ground floor of a New Territories Exempted House:

Eating Place Library School Shop and Services

(Please see next page)

VILLAGE TYPE DEVELOPMENT (Cont'd)

Planning Intention

The planning intention of this zone is to designate both the existing recognized village and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Town Planning Board.

<u>Remarks</u>

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building (except development or redevelopment to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, whichever is the greater.
- (b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (c) Any diversion of streams or filling of pond, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

Ambulance Depot Animal Ouarantine Centre (in Government building only) Broadcasting, Television and/or Film Studio Eating Place (Canteen, Cooked Food Centre only) **Educational Institution** Exhibition or Convention Hall Field Study/Education/Visitor Centre **Government Refuse Collection Point** Government Use (not elsewhere specified) Hospital Institutional Use (not elsewhere specified) Library Market Pier Place of Recreation, Sports or Culture **Public Clinic Public Convenience** Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) **Recyclable Collection Centre Religious Institution** Research, Design and Development Centre Rural Committee/Village Office School Service Reservoir Social Welfare Facility **Training Centre** Wholesale Trade

Animal Boarding Establishment Animal Quarantine Centre (not elsewhere specified) Columbarium **Correctional Institution** Crematorium **Driving School** Eating Place (not elsewhere specified) **Funeral Facility** Holiday Camp Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Private Club Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation **Residential Institution** Sewage Treatment/Screening Plant Shop and Services Utility Installation for Private Project Z00

(Please see next page)

GOVERNMENT, INSTITUTION OR COMMUNITY (Cont'd)

Planning Intention

This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.

<u>Remarks</u>

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, whichever is the greater.
- (b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

GREEN BELT

Column 1 Uses always permitted Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

Agricultural Use Barbecue Spot Government Use (Police Reporting Centre only) Nature Reserve Nature Trail On-Farm Domestic Structure Picnic Area Public Convenience Tent Camping Ground Wild Animals Protection Area Animal Boarding Establishment Broadcasting, Television and/or Film Studio **Burial Ground** Columbarium (within a Religious Institution or extension of existing Columbarium only) Crematorium (within a Religious Institution or extension of existing Crematorium only) Field Study/Education/Visitor Centre **Government Refuse Collection Point** Government Use (not elsewhere specified) Helicopter Landing Pad Holiday Camp House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Petrol Filling Station Pier Place of Recreation, Sports or Culture Public Transport Terminus or Station **Public Utility Installation Public Vehicle Park** (excluding container vehicle) Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation

GREEN BELT (Cont'd)

Column 1 Uses always permitted Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

Religious Institution Residential Institution Rural Committee/Village Office School Service Reservoir Social Welfare Facility Utility Installation for Private Project

Planning Intention

The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.

Remarks

Any diversion of streams, filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

COASTAL PROTECTION AREA

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use (other than Plant Nursery) Nature Reserve Nature Trail On-Farm Domestic Structure Wild Animals Protection Area	Field Study/Education/Visitor Centre Government Use House (Redevelopment only) Public Convenience Public Utility Installation Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation

Planning Intention

This zoning is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It may also cover areas which serve as natural protection areas sheltering nearby developments against the effects of coastal erosion.

There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.

(Please see next page)

COASTAL PROTECTION AREA (Cont'd)

<u>Remarks</u>

- (a) No redevelopment, including alteration and/or modification, of an existing house shall result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan.
- (b) Any diversion of streams, filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

Appendix III

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B

EXPLANATORY STATEMENT

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B

EXPLANATORY STATEMENT

<u>CONT</u>	Page			
1.	INTRODUCTION			
2.	AUTHORITY FOR THE PLAN AND PROCEDURE			
3.	OBJECT OF THE PLAN			
4.	NOTES OF THE PLAN			
5.	THE PLANNING SCHEME AREA			
6.	POPULATION			
7.	OPPORTUNITIES AND CONSTRAINTS			
8.	GENERAL PLANNING INTENTION			
9.	LAND-USE ZONINGS			
	9.1 Village Type Development	6		
	9.2 Government, Institution or Community	8		
	9.3 Green Belt	8		
	9.4 Coastal Protection Area	9		
10.	CULTURAL HERITAGE	10		
11.	COMMUNICATIONS			
12.	UTILITY SERVICES 11			
13.	IMPLEMENTATION 11			
14.	PLANNING CONTROL			

DRAFT CHEK KENG OUTLINE ZONING PLAN NO. S/NE-CK/B

(Being a Draft Plan for the Purposes of the Town Planning Ordinance)

EXPLANATORY STATEMENT

Note : For the purposes of the Town Planning Ordinance, this statement shall not be deemed to constitute a part of the Plan.

1. **INTRODUCTION**

This Explanatory Statement is intended to assist an understanding of the draft Chek Keng Outline Zoning Plan (OZP) No. S/NE-CK/B. It reflects the planning intention and objectives of the Town Planning Board (the Board) for various land-use zonings of the plan.

2. <u>AUTHORITY FOR THE PLAN AND PROCEDURE</u>

- 2.1 On 14 July 2011, under the power delegated by the Chief Executive (CE), the Secretary for Development (SDEV) directed the Board, under section 3(1)(b) of the Town Planning Ordinance (the Ordinance), to prepare a Development Permission Area (DPA) Plan for the Chek Keng area.
- 2.2 On 4 May 2012, the draft Chek Keng DPA Plan No. DPA/NE-CK/1 was exhibited for public inspection under section 5 of the Ordinance. During the two-month exhibition period, 9 representations were received. On 27 July 2012, the Board published the representations for public comment for three weeks and no comment was received. After giving consideration to the representations on 18 January 2013, the Board decided not to propose any amendment to the draft DPA Plan to meet the representations.
- 2.3 On 30 April 2013, the CE in Council (CE in C), under section 9(1)(a) of the Ordinance, approved the draft Chek Keng DPA Plan, which was subsequently renumbered as DPA/NE-CK/2. On 10 May 2013, the approved Chek Keng DPA Plan No. DPA/NE-CK/2 was exhibited for public inspection under section 9(5) of the Ordinance.
- 2.4 On 16 October 2014, under the power delegated by the CE, the SDEV directed the Board, under section 3(1)(a) of the Ordinance, to prepare an OZP to cover the Chek Keng area.
- 2.5 On XX XXX 2015, the draft Chek Keng OZP No. S/NE-CK/B (the Plan) was exhibited for public inspection under section 5 of the Ordinance.

3. <u>OBJECT OF THE PLAN</u>

- 3.1 The object of the Plan is to indicate the broad land-use zonings for the area of Chek Keng so that development and redevelopment within the area of Chek Keng can be put under statutory planning control. It also provides the planning framework for preparing more detailed non-statutory plans which form the basis for public works planning and site reservation for various uses.
- 3.2 The Plan is to illustrate the broad principles of development and planning control only. It is a small-scale plan and the road alignments and boundaries between the land-use zones may be subject to minor alterations as detailed planning proceeds.

4. <u>NOTES OF THE PLAN</u>

- 4.1 Attached to the Plan is a set of Notes which shows the types of uses or developments which are always permitted within the Planning Scheme Area (the Area) and in particular zones and which may be permitted by the Board, with or without conditions, on application. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land-use planning and control of development to meet the changing needs.
- 4.2 For the guidance of the general public, a set of definitions that explains some of the terms used in the Notes may be obtained from the Technical Services Division of the Planning Department and can be downloaded from the Board's website at <u>http://www.info.gov.hk/tpb/</u>.

5. <u>THE PLANNING SCHEME AREA</u>

- 5.1 The Area, covering a total area of about 34.74 ha, is surrounded by the Sai Kung East Country Park except where it fronts onto Chek Keng Hau in the north, one of the sea bays along the northern coast of the Country Park.
- 5.2 MacLehose Trail traverses the Area from east to west, largely dividing the lower seaside area mainly with natural coastline and features to its north from the higher landside area with a village cluster and vegetated slopes/valleys to its south.
- 5.3 Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species. Uncommon plant species have also been found in the Area. The intertidal mudflat supporting various species of mangroves and a high diversity of mangrove fauna can be found straddling the edge of the Area and the sea. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition

between the mangroves and the woodland.

- 5.4 Fronting onto the sea bay with the village situated in its central part and two natural streams flowing through the valleys, the Area forms a continuous scenic belt at the Chek Keng Hau along the MacLehose Trail. In general, the Area is natural and rural in character and has high landscape and scenic value.
- 5.5 The Chek Keng Village is the only recognized village within the Area. The village houses are mostly abandoned with many in dilapidated condition or become ruins. The Holy Family Chapel (聖家小堂), built in 1874 and now vacant, is a Grade 2 historic building worthy of preservation. There is a permitted burial ground on the hillslopes along the northeastern edge of the Area.

6. <u>POPULATION</u>

According to the 2011 Census, the total population of the Area was about 30 persons. It is expected that the total planned population of the Area would be about 330 persons mainly attributed to village expansion.

7. <u>OPPORTUNITIES AND CONSTRAINTS</u>

7.1 **Opportunities**

7.1.1 <u>Conservation and Natural Landscape</u>

Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species. Uncommon plant species have also been found in the Area. The intertidal mudflat supporting various species of mangroves and a high diversity of mangrove fauna can be found straddling the edge of the Area and the sea. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Fronting onto the sea bay with the village situated in its central part and two natural streams flowing through the valleys, the Area forms a continuous scenic belt at the Chek Keng Hau along the MacLehose Trail. In general, the Area is natural and rural in character, has high landscape and scenic value. It is worthy of conservation while the scale of the village development should be compatible with the surrounding landscape and rural setting.

7.1.2 Tourism, Recreation and Agriculture Potential

The popular MacLehose Trail traverses the Area, connecting it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south. There are a variety of recreational facilities in the nearby Sai Kung East and West Country Parks, including a network of hiking trails, 13 camp sites, 36 barbecue sites (including the Pak Tam Chung Barbecue Site for the Disabled) and the Pak Tam Chung Visitor Centre. The Bradbury Hall Youth Hostel is in close proximity to the northeast of the Area and the Jockey Club Wong Shek Water Sports Centre is located near Wong Shek Pier, which is accessible by boats from Chek Keng. There is little agricultural activity in the Area. Although the extensive abandoned farmland in the Area should possess potential for agricultural activities, as most of these areas have already been turned into shrubland or woodland after being abandoned for decades, clearance of vegetation will be required to return the land for agricultural activities.

7.2 <u>Constraints</u>

7.2.1 Ecological Significance

Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species, such as Aquilaria sinensis (十沉香) and Cibotium barometz (金毛狗). Uncommon plant species such as Zanthoxylum ailanthoides (樁葉花椒) and Zoysia sinica (中華結縷草) have also been found in the Area. The intertidal mudflat straddling the edge of the Area and the sea supports seven species of mangroves including the uncommon Heritiera littoralis (銀 葉樹) and a high diversity of mangrove fauna. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Dominant flora species include the Paliurus ramosissimus (馬甲子), Hibiscus tiliaceus (黃槿) and Cerbera manghas (海杧果). The backshore vegetation areas are ecologically linked with mangroves and provide habitats for Sesarmine Crabs. The two natural streams in the eastern and western parts of the Area flow through the valleys from south to north into the sea. There is neither fung shui woodland nor Ecologically Important Stream (EIS) in the Area, and the terrestrial habitats consist largely of common native plant species. From the nature conservation perspective, developments that may adversely affect the natural character and the ecologically sensitive areas will not be recommended.

7.2.2 Landscape Character

With reference to the 'Landscape Value Mapping of Hong Kong (2005)', the Area is characterized as settled valley landscape of high landscape and scenic value complementing the overall naturalness and landscape beauty of the surrounding Sai Kung East Country Park. The second section of MacLehose Trail, a popular hiking trail of Hong Kong, passes through the Area. Most of the natural landscape is largely undisturbed, and the important landscape resources include woodland on steep rolling slopes, streams, low-lying abandoned agricultural land, mudflats, sandy/rocky shore with cliff, estuarine areas with mangroves/backshore vegetation, and some feature trees with high amenity value in the village and near the Holy Family Chapel. From the landscape planning perspective, any large scale development with associated utilities installation and slope formation work is not compatible with the existing landscape context. Furthermore, sufficient landscape buffer should be provided to significant landscape resources in the Area.

7.2.3 <u>Cultural Heritage</u>

The Holy Family Chapel (聖家小堂) is a Grade 2 historic building worthy of preservation. Prior consultation with the Antiquities and Monuments Office of the Leisure and Cultural Services Department should be made if any development, redevelopment or rezoning proposals might affect the above graded historic building and its immediate environs.

7.2.4 <u>Burial Grounds</u>

A large piece of permitted burial ground for indigenous villagers is located on the hillslopes along the northeastern fringe of the Area. Whilst the majority of the burial ground lies outside the Area and within the Country Park, its western part lies within the Area and is not suitable for any development.

7.2.5 <u>Transportation</u>

The Area is not served by any vehicular access and is only accessible by walking trails, including the popular MacLehose Trail which connects it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south. Part of the MacLehose Trail is within the Area. It is a popular hiking trail and should be maintained for free public access and preserved from developments in the future. There are two small piers near the village and another pier to the northeast of the Area. The Area is also accessible by boats from the nearby Wong Shek, or from the more distant Ma Liu Shui, Tai Po.

7.2.6 <u>Sewerage</u>

There is no existing or planned public sewer for the Area. Any increase in population or number of visitors to the Area or further recreation/residential developments will require additional facilities.

7.2.7 Other Infrastructure and Utility Services

The Area is provided with electricity and telephone services. Potable water supply has been provided to the existing facilities and village houses in the Area. However, there is no existing or planned drainage system in the Area.

7.2.8 <u>Geotechnical Constraint</u>

The Area is located below steep natural terrain with a long history of instability and may be affected by potential natural terrain landslide hazards. For developments within the Area, natural terrain hazard studies may be required to ascertain the scale of the hazards and to provide suitable hazard mitigation measures, if found necessary, as part of the developments.

8. <u>GENERAL PLANNING INTENTION</u>

- 8.1 The Area forms an integral part of the natural system of the adjoining Sai Kung East Country Park with a wide spectrum of natural habitats including, inter alia, woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves which should be preserved and protected. In general, the Area is natural and rural in character and has high landscape and scenic value. The general planning intention of the Area is to protect its high conservation and landscape value which complements the overall naturalness and the landscape beauty of the surrounding Country Park.
- 8.2 Apart from the environmental and ecological considerations, development in the Area is constrained by limited transport and infrastructural provisions. It is also intended to consolidate village development so as to avoid undesirable disturbances to the natural environment and overtaxing the limited infrastructure in the Area.

9. <u>LAND-USE ZONINGS</u>

- 9.1 <u>"Village Type Development" ("V")</u> : Total Area 2.24 ha
 - 9.1.1 The planning intention of this zone is to designate both the existing recognized village and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more

orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Board.

- 9.1.2 Chek Keng is the only recognized village in the Area. The boundaries of the "V" zone are drawn up having regard to the village 'environs', the number of outstanding Small House applications, Small House demand forecast, local topography and site constraints. Areas of difficult terrain, dense vegetation, stream courses and burial grounds have been avoided as far as possible.
- 9.1.3 No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft DPA plan, whichever is the greater. Application for minor relaxation of these restrictions would be considered by the Board based on individual merits, taking into account site constraints, innovative architectural design and planning merits that would enhance the amenity of the locality.
- 9.1.4 As diversion of streams or filling of pond may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works.
- 9.1.5 In accordance with the Environment, Transport and Works Bureau's Technical Circular (Works) No. 5/2005, under the current administrative practice, development proposals/submissions that may affect natural streams/rivers, the approving/processing authorities at various stages of the development should consult and collate comments from the AFCD and relevant authorities and incorporate relevant comments/advice as conditions of approval wherever possible. Accordingly, LandsD, when processing Small House grant and applications in close proximity to existing stream courses, should consult concerned departments including AFCD, Environmental Protection Department (EPD) and PlanD to ensure that all relevant departments would have adequate opportunity to review and comment on the applications.
- 9.1.6 The "V" zone in the Area is located below steep natural terrain with a long history of instability and may be affected by potential natural terrain landslide hazards. For development within the Area, the developer(s) may be required to carry out natural terrain hazard study

and to provide suitable hazard mitigation measures, if found necessary, as part of the development.

9.1.7 There is no existing or planned public sewer for the Area. For Small House development, the design and construction of the septic tank and soakaway systems need to comply with relevant standards and regulations, such as EPD's Practice Note for Professional Persons (ProPECC PN) 5/93 – "Drainage Plans subject to Comment by the Environmental Protection Department", for the protection of the water quality of the Area.

9.2 <u>"Government, Institution or Community"</u> ("G/IC") : Total Area 0.08ha

- 9.2.1 The planning intention of this zone is primarily for the provision of GIC facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.
- 9.2.2 The major existing GIC facilities under this zone include a public toilet and a refuse collection point along MacLehose Trail in the eastern part of the Area, as well as the Holy Family Chapel at the southern fringe of Chek Keng Village.
- 9.2.3 To preserve the rural and low-rise character of the Area as well as provide spatial and visual relief, development/redevelopment within this zone should be restricted to a maximum building height as stipulated on the Plan (i.e. one storey) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft DPA plan, whichever is greater.
- 9.2.4 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction may be considered by the Board through the planning permission system. Each application will be considered on its individual planning merits.
- 9.3 <u>"Green Belt" ("GB")</u> : Total Area 28.82ha
 - 9.3.1 The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.
 - 9.3.2 The "GB" zone comprising mainly woodlands, shrublands, grasslands and streams, can provide a buffer between the village type developments and the Sai Kung East Country Park and conserve the natural and rural character of the Area.

- 9.3.3 The "GB" zone also comprises the western part of the permitted burial ground on the hillslopes along the northeastern fringe of the Area. It has been in existence for many years, and is considered as existing use intended for the burial of deceased indigenous villagers in the Area. To respect the local ritual and tradition, burial activities within this zone are generally tolerated.
- 9.3.4 There is a general presumption against development within this zone. Development in this zone will be strictly controlled. Development proposals will be considered by the Board on individual merits taking into account the relevant Town Planning Board Guidelines.
- 9.3.5 As diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works.
- 9.4 <u>Coastal Protection Area ("CPA")</u>: Total Area 3.60 ha
 - 9.4.1 This zone is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It may also cover areas which serve as natural protection areas sheltering nearby developments against the effects of coastal erosion. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.
 - 9.4.2 This zone mainly covers the coastal area along Chek Keng Hau to the north of MacLehose Trail (with the exception of a few houses and ruins at the existing village cluster) and the cliff of the vegetatetd knoll to the south of the trail. It primarily consists of sandy/rocky shore with cliff, backshore vegetation, mangroves and stream estuaries. The intertidal mudflat straddling the edge of the Area and the sea supports seven species of mangroves including the uncommon *Heritiera littoralis* (銀 葉樹) and a high diversity of mangrove fauna. Backshore vegetation is ecologically linked with mangroves and provides habitats for Sesarmine Crabs. This zone can also provide a buffer between the adjoining village area and the marine environment.

- 9.4.3 New residential development is not permitted under this zone. Redevelopment of existing houses may be permitted on application to the Board. The redevelopment of existing houses shall not result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication of the draft DPA Plan.
- 9.4.4 Diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on adjacent areas and adverse impacts on the natural environment. In view of the conservation value of the area within this zone, permission from the Board is required for such activities.

10. <u>CULTURAL HERITAGE</u>

- 10.1 The Holy Family Chapel (聖家小堂), built in 1874, is a Grade 2 historic building worthy of preservation. The Chapel marks the endeavours of Catholic missionaries and their influence on village development in Tai Po from the 19th century to the early 20th century. In the years of the Japanese Occupation (1941-1945), the Chapel was used as a guerrilla base against the Occupation. In late 1980s, the Chapel was turned into a youth camp. It is now vacant.
- 10.2 The Antiquities Advisory Board (AAB) also released a number of new items in addition to the list of 1,444 historic buildings. These items are subject to the grading assessment by the AAB. Details of the list of 1,444 historic buildings and its new items have been uploaded onto the website of the AAB at http://www.aab.gov.hk.
- 10.3 Prior consultation with the Antiquities and Monuments Office of the Leisure and Cultural Services Department should be made if any development, redevelopment or rezoning proposals might affect the above graded historic building/structure, new items pending grading assessment and its/their immediate environs.

11. <u>COMMUNICATIONS</u>

Transport Network

The Area is not served by any vehicular access and is only accessible by walking trails, including the popular MacLehose Trail which connects it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south. Part of the MacLehose Trail is within the Area. It is a popular hiking trail and should be maintained for free public access and preserved from developments in the future. There are two small piers near the village and another pier to the northeast of the Area. The Area is also accessible by boats from the nearby Wong Shek, or from the more distant Ma Liu Shui, Tai Po.

12. <u>UTILITY SERVICES</u>

The Area is provided with electricity and telephone services. Potable water supply has been provided to the existing facilities and village houses in the Area. There are no existing or planned drainage and sewerage systems for the Area.

13. <u>IMPLEMENTATION</u>

- 13.1 The Plan provides a broad land-use framework for development control and implementation of planning proposals for the Area. More detailed plans will be prepared as a basis for public works planning and private developments.
- 13.2 At present, there is no overall programme for the provision of infrastructure within the Area. The implementation process will be gradual and may stretch over a long period of time depending on the availability of resources. It will be undertaken through the participation of both public and private sectors.
- 13.3 Notwithstanding the above, minor improvement works, e.g. access improvement and laying of utility services will be implemented through the Public Works Programme as and when resources are available. Private developments will be effected principally through private sector initiatives to develop or redevelop their properties in accordance with the zoned uses indicated on the Plan, provided that their proposals meet Government requirements.

14. <u>PLANNING CONTROL</u>

- 14.1 The types of permitted developments and uses on land within the Area are listed in the Notes of the Plan. Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted developments and uses within the same zone are always permitted and no separate permission is required.
- 14.2 Uses of land or building which were in existence immediately before the first publication in the Gazette of the notice of the draft DPA Plan and which are not in compliance with the terms of the Plan may have adverse impacts on the environment, drainage and traffic of the Area. Although no action is required to make such use conform to this Plan, any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or, if permission is required, in accordance with a permission granted by the Board. The Board will consider these applications on their individual merits. Those alteration and/or modification works which may lead to an environmental improvement or upgrading to the Area may be considered favourably by the Board.
- 14.3 Planning applications to the Board will be assessed on individual merits. In general, the Board, in considering the planning applications, will take into

account all relevant planning considerations including guidelines published by the Board. Guidelines published by the Board are available from the Board's website, the Secretariat of the Board and the Technical Services Division of the Planning Department. Application forms and Guidance Notes for planning applications can be downloaded from the Board's website, and are available from the Secretariat of the Board, and the Technical Services Division and the relevant District Planning Office of the Planning Department. Applications should be supported by such materials as the Board thinks appropriate to enable it to consider the applications.

14.4 Any development, other than those referred to in paragraph 14.1 above or in conformity with this Plan or with the permission of the Board, undertaken or continued on land included in this Plan on or after the date of the first publication in the Gazette of the Notice of the draft DPA Plan may be subject to enforcement proceedings under the Ordinance. Any diversion of streams, filling of land/pond and excavation of land in the relevant zones on or after the date of the first publication in the Gazette of the Notice of the Notice of the draft DPA Plan without permission from the Board may also be subject to enforcement proceedings. Moreover, there is a presumption against filling of ponds for temporary land uses/developments in conservation-related zonings, such as "CPA".

TOWN PLANNING BOARD DECEMBER 2014

Appendix IV

PLANNING REPORT ON CHEK KENG















SHA TIN, TAI PO & NORTH DISTRICT PLANNING OFFICE PLANNING DEPARTMENT DECEMBER 2014



PLANNING REPORT ON CHEK KENG

December 2014

	COI	NTENT	Page		<u>Page</u>
				4. PLANNING PROPOSALS	
1.	INT	RODUCTION		4.1 The Outline Zoning Plan	11
				4.2 Planning Objectives	11
	1.1	Purpose of the Planning Report	1	4.3 Planning Principles	11
	1.2	Background	1	4.4 Land Use Proposals	12
2.	THI	E STUDY AREA		5. IMPLEMENTATION	16
	2.1	Location	2		
	2.2	Natural Features	2	Table 1: Small House Demand in 2012 and 2014	
	2.3	Historical Development	4		
	2.4	Population and Employment	4		
	2.5	Existing Land Uses	4		
	2.6	Land Ownership	5		
	2.7	Transportation and Access	5		
	2.8	Infrastructure and Utility Services	5		
3.	PLA	ANNING ANALYSIS			
	3.1	Strategic Planning Context	5		
	3.2	Environment and Conservation Considerations	6		
	3.3		6		
	3.3 3.4	Development Constraints Development Opportunities	6 8		
	3.4 3.5	Development Opportunities Development Pressure	o 9		
		-	9 10		
	3.6	Development Proposals Received in the Course of Preparation of the Plan	10		

Planning Report on Chek Keng

List of Figures

Figure 1	Location Plan
Figure 2	Chek Keng Development Permission Area Plan
Figure 3	Study Area
Figure 4	Aerial Photo
Figure 5a	Existing Physical Features
Figure 5b – 5f	Photos of Existing Physical Features
Figure 6a	Existing Land Uses
Figure 6b – 6d	Photos of Existing Land Uses
Figure 7	Land Ownership and Village 'Environs'
Figure 8	Existing GIC, Infrastructural and Tourism- related Facilities
Figure 9	Ecological and Cultural Heritage Resources
Figure 10	Development Constraints
Figure 11	Suspected Illegal Incense Tree Felling on Government Land detected in September 2014
Figure 12	Proposed Land Uses

1. **INTRODUCTION**

1.1 Purpose of the Planning Report

The purpose of this Planning Report is to give an account of the background and an appraisal of the existing conditions, characteristics and development requirements of the Chek Keng area (the Area). It also aims at providing a basis for the preparation of an Outline Zoning Plan (OZP) for the Area and the formulation of a planning framework to guide future development.

1.2 Background

- 1.2.1 The Area, covering a total area of about 34.74 ha, is surrounded by the Sai Kung East Country Park except where it fronts onto Chek Keng Hau in the north, one of the sea bays along the northern coast of the Country Park (**Figure 1**).
- 1.2.2 Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. The Chek Keng Village, located in the middle of the Area and mostly abandoned, is the only recognized village in the Area. The Area, natural and rural in character, has high landscape and scenic value and is a popular hiking area.
- 1.2.3 Any large scale and uncontrolled development may affect the natural environment including the

ecological and landscape value of the Area. There was an urgent need to prepare a development permission area (DPA) plan for the Area to facilitate proper planning control and enforcement. Under the power delegated by the Chief Executive (CE), on 14.7.2011, the Secretary for Development directed the Town Planning Board (the Board) to prepare a draft plan designating the Area as a DPA.

- 1.2.4 The draft Chek Keng DPA Plan No. DPA/NE- CK/1 was exhibited for public inspection on 4.5.2012. During the plan exhibition period, a total of nine representations and no comment were received. After giving consideration to the representations on 18.1.2013, the Board decided not to propose any amendment to the draft DPA plan to meet the representations.
- 1.2.5 On 30.4.2013, the Chief Executive in Council (CE in C) approved the draft Chek Keng DPA Plan, which was subsequently renumbered as DPA/NE-CK/2 (Figure 2). On 10.5.2013, the approved Chek Keng DPA Plan No. DPA/NE- CK/2 was exhibited for public inspection under section 9(5) of the Town Planning Ordinance (the Ordinance).
- 1.2.6 Pursuant to section 20(5) of the Ordinance, the DPA Plan is effective for three years until 4.5.2015. On 16.10.2014, the CE, pursuant to section 3(1)(a) of the Ordinance, directed the Board to prepare an OZP for the Area.

2. <u>THE STUDY AREA</u>

2.1. Location

- 2.1.1 The Area, covering a total area of about 34.74 ha, is surrounded by the Sai Kung East Country Park except where it fronts onto Chek Keng Hau in the north, one of the sea bays along the northern coast of the Country Park. The location of the Area is shown in **Figure 3**.
- 2.1.2 The Area is not served by any vehicular access and is only accessible by walking trails, including the popular MacLehose Trail which connects it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south. Part of the MacLehose Trail is within the Area. There are two small piers near the village and another pier to the northeast of the Area. The Area is also accessible by boats from the nearby Wong Shek, or from the more distant Ma Liu Shui, Tai Po.

2.2. Natural Features

Physical Setting and Topography

2.2.1 Fronting onto a sea bay (Chek Keng Hau) to the north, the coastal part of the Area is largely flat except where a vegetated knoll protrudes into the sea bay in the eastern section. The MacLehose Trail traverses the Area from east to west, largely dividing the lower seaside area mainly with natural coastline and features to its north from the higher landside area with rural land uses and vegetated slopes/valleys to its south.

- 2.2.2 To the north (sea side) of the MacLehose Trail is mainly the lower coastal area comprising sandy/rocky shore, stream estuaries and areas covered with backshore vegetation. Further to the north, there are mangroves in the intertidal mudflat straddling the edge of the Area and the sea. A few village houses and concrete platforms (mostly abandoned) and two small piers can also be found at the village cluster in the middle section of the coastal area. To the south (land side) of the MacLehose Trail and in the middle of the Area is the Chek Keng Village, with a cluster of village houses, ruins, a chapel site and a school site occupying various platforms sloping uphill. There is a protruding vegetated knoll in the eastern section of the coastal front which is flanked by a cliff of about 10m high along the southern side of the MacLehose Trail.
- 2.2.3 Facing to the north, Chek Keng Village is surrounded by densely vegetated slopes with woodland extending into the Sai Kung East Country Park. There are two natural streams flowing through the valleys, with some abandoned agricultural land, which has been colonized by woodland, shrubland and grassland, in the eastern and western parts of the Area. Overview of the Area is shown in **Figures 3 and 4**.

Natural Habitats (Figures 5a – 5f)

- 2.2.4 The Area forms part of the wider natural environment of the Sai Kung East Country Park. It mainly comprises woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, as well as village houses/ruins. Details of the natural habitats are listed below:
- (a) Native Woodland, Shrubland and Grassland
 - (i) The woodland supports protected plant species, such as Aquilaria sinensis (土沉香) and Cibotium barometz (金毛狗). Uncommon plant species such as Zanthoxylum ailanthoides (椿葉花椒) and Zoysia sinica (中華結縷草) have also been found in the Area.
 - (ii) According to the Agriculture, Fisheries and Conservation Department (AFCD), the terrestrial habitats of the woodland consist largely of common native plant species.
- (b) Abandoned Agricultural Land
 - (i) Agricultural land in the Area has been left abandoned and largely overgrown with trees, shrubs and grasses. Those on both sides of the two natural streams are currently mainly covered by woodland in the upper sections, whereas patches of shrubland and grassland

are found in the lower sections.

- (ii) An area of ruderal habitat is present on the western side of the village cluster, between house ruins and MacLehose Trail. It appears to be abandoned agricultural land invaded by the ruderal vegetation such as weedy climbers and shrubs.
- (c) Seashore Areas and Streams
 - (i) To the north (sea side) of MacLehose Trail is mainly the lower coastal area comprising sandy/rocky shore, stream estuaries and areas covered with backshore vegetation. Further to the north, there are mangroves in the intertidal mudflat straddling the edge of the Area and the sea. The intertidal mudflat supports seven species of mangroves including the uncommon *Heritiera littoralis* (銀葉樹) and a high diversity of mangrove fauna.
 - (ii) Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Dominant flora species include the *Paliurus ramosissimus* (馬甲子), *Hibiscus tiliaceus* (黃槿) and *Cerbera manghas* (海杧果). The backshore vegetation areas are ecologically linked with mangroves and provide habitats

for Sesarmine Crabs¹.

- (iii) The two natural streams in the eastern and western parts of the Area flow through the valleys from south to north into the sea..
- (d) Within the Village Cluster

Bat species *Hipposideros armiger* (大蹄蝠) and *H. pomona* (小蹄蝠), which are very common in Hong Kong, have been recorded to roost in the abandoned village houses in the Area during certain periods of the year.

2.3 Historical Development

- 2.3.1 Chek Keng Village is a recognized village in the area of the Sai Kung North Heung. The village houses are mostly abandoned with many in dilapidated condition or become ruins.
- 2.3.2 The Holy Family Chapel (聖家小堂), built in 1874, is a Grade 2 historic building worthy of preservation. The Chapel marks the endeavours of Catholic missionaries and their influence on village development in Tai Po from the 19th century to the early 20th century. In the years of the Japanese Occupation (1941-1945), the Chapel was used as a guerrilla base against the Occupation. In late 1980s, the Chapel was turned into a youth camp.

2.4 Population and Employment

According to 2011 Census, the population of the Area was estimated to be about 30 persons. Considerable amount of agricultural land has been lying abandoned overgrown with trees, shrubs and grass.

2.5 Existing Land Uses (Figures 6a – 6d)

The area is natural and rural in character comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves. Chek Keng Village is situated in the middle of the Area, with a cluster of village houses, ruins, a chapel site and a school site occupying part of the coastal front and various platforms sloping uphill. The major existing land uses include the following:

Village Type Development

- 2.5.1 The Chek Keng Village is the only recognized village within the Area. The village houses are mostly abandoned with many in dilapidated condition or become ruins.
- 2.5.2 According to District Lands Officer/ Tai Po, Lands Department (DLO/TP, LandsD), there are 20 outstanding Small House applications in the Area, and the 10-year Small House demand forecast provided by the Indigenous Inhabitant Representative (IIR) of Chek Keng is 254. There is one Small House application approved (in 2008) in

¹ The diversity of Sesarmine Crabs is indicative to the "intactness" of the mangrove ecosystem.

the Area, but construction at the site has not commenced.

Government, Institution or Community (GIC) Facilities

- 2.5.3 Major GIC facilities in the Area to meet the community needs include a single storey public toilet and a refuse collection point along MacLehose Trail in the eastern part of the Area.
- 2.5.4 Various GIC developments including the Holy Family Chapel and the ex-Chek Keng Ming Sun School (銘新學校), are currently vacant.

Cultural Heritage Resources

2.5.5 The Holy Family Chapel (聖家小堂), built in 1874, is a Grade 2 historic building worthy of preservation. The Chapel is a single-storey pitched roof building with a two-level section in the middle housing the priest's quarter, and an end section formerly housing a village school. In late 1980s, the Chapel was turned into a youth camp. The Chapel is now vacant.

Burial Grounds

2.5.6 There is a permitted burial ground on the hillslopes along the northeastern edge of the Area.

2.6 Land Ownership

About 62% of land in the Area is Government land. The remaining 38% are private land comprising abandoned agricultural land mainly on both sides of the two natural

streams and building lots in the middle of the Area (**Figure 7**).

2.7 Transportation and Access

At present, the Area is not served by any vehicular access and is only accessible by walking trails, including the popular MacLehose Trail which connects it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south (**Figure 8**). Part of the MacLehose Trail is within the Area. There are two small piers near the village and another pier to the northeast of the Area. The Area is also accessible by boats from the nearby Wong Shek, or from the more distant Ma Liu Shui, Tai Po.

2.8 Infrastructure and Utility Services

The Area is provided with electricity and telephone services. Potable water supply has been provided to the existing facilities and village houses in the Area. There are no existing and planned drainage and sewerage systems.

3. PLANNING ANALYSIS

3.1 Strategic Planning Context

3.1.1 Given the natural environment, its ecological and landscape value coupled with its limited accessibility due to lack of vehicular access, the planning framework for the Area should fundamentally be for preservation of the natural environment. Any large-scale development is not recommended to minimize the encroachment onto the sensitive environment and to protect and enhance ecological and landscape conservation.

3.1.2 With reference to the 'Landscape Value Mapping of Hong Kong (2005)', the Area is characterized as settled valley landscape of high landscape and scenic value complementing the overall naturalness and landscape beauty of the surrounding Sai Kung East Country Park. The second section of MacLehose Trail, a popular hiking trail of Hong Kong, passes through the Area. Most of the natural landscape is largely undisturbed, and the important landscape resources include woodland on steep rolling slopes, streams, low-lying abandoned agricultural land, mudflats, sandy/rocky shore with cliff, estuarine areas with mangroves/backshore vegetation, and some feature trees with high amenity value in the village and near the Holy Family Chapel.

3.2 Environment and Conservation Considerations (Figure 9)

- 3.2.1 Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park.
- 3.2.2 The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species. Uncommon plant species have also

been found in the Area. The intertidal mudflat supporting various species of mangroves and a high diversity of mangrove fauna can be found straddling the edge of the Area and the sea. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland.

3.2.3 Fronting onto the sea bay with the village situated in its central part and two natural streams flowing through the valleys, the Area forms a continuous scenic belt at the Chek Keng Hau along the MacLehose Trail. In general, the Area is natural and rural in character and has high landscape and scenic value.

3.3 Development Constraints (Figure 10)

Ecological Significance

3.3.1 Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species, such as *Aquilaria sinensis* (土沉香) and *Cibotium barometz* (金毛狗). Uncommon plant species such as *Zanthoxylum ailanthoides* (椿葉花椒) and *Zoysia sinica* (中華結 縷草) have also been found in the Area.

- 3.3.2 The intertidal mudflat straddling the edge of the Area and the sea supports seven species of mangroves including the uncommon *Heritiera littoralis* (銀葉樹) and a high diversity of mangrove fauna. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Dominant flora species include the *Paliurus ramosissimus* (馬甲子), *Hibiscus tiliaceus* (黃槿) and *Cerbera manghas* (海杧果). The backshore vegetation areas are ecologically linked with mangroves and provide habitats for the Sesarmine Crabs.
- 3.3.3 The two natural streams in the eastern and western parts of the Area flow through the valleys from south to north into the sea. There is neither *fung shui* woodland nor Ecologically Important Stream (EIS) in the Area, and the terrestrial habitats consist largely of common native plant species.
- 3.3.4 Furthermore, bat species *Hipposideros armiger* (大蹄蝠) and *H. pomona* (小蹄蝠), which are very common in Hong Kong, have been recorded to roost in the abandoned village houses in the Area during certain periods of the year.
- 3.3.5 From the nature conservation perspective, developments that may adversely affect the natural character and the ecologically sensitive areas will

not be recommended.

Landscape Character

- 3.3.6 With reference to the 'Landscape Value Mapping of Hong Kong (2005)', the Area is characterized as settled valley landscape of high landscape and scenic value complementing the overall naturalness and landscape beauty of the surrounding Sai Kung East Country Park. The second section of MacLehose Trail, a popular hiking trail of Hong Kong, passes through the Area. Most of the natural landscape is largely undisturbed, and the important landscape resources include woodland on steep rolling slopes, streams, low-lying abandoned agricultural land, mudflats, sandy/rocky shore with cliff, estuarine areas with mangroves/backshore vegetation, and some feature trees with high amenity value in the village and near the Holy Family Chapel.
- 3.3.7 From the landscape planning perspective, any large scale development with associated utilities installation and slope formation work is not compatible with the existing landscape context. Furthermore, sufficient landscape buffer should be provided to significant landscape resources in the Area.

Cultural Heritage

3.3.8 The Holy Family Chapel (聖家小堂) is a Grade 2 historic building worthy of preservation. Prior consultation with the Antiquities and Monuments

Office of the Leisure and Cultural Services Department should be made if any development, redevelopment or rezoning proposals might affect the above graded historic building and its immediate environs.

Burial Grounds

3.3.9 A large piece of permitted burial ground for indigenous villagers is located on the hillslopes along the northeastern fringe of the Area. Whilst the majority of the burial ground lies outside the Area and within the Country Park, its western part lies within the Area and is not suitable for any development.

Transportation

3.3.10 The Area is not served by any vehicular access and is only accessible by walking trails, including the popular MacLehose Trail which connects it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south. Part of the MacLehose Trail is within the Area. It is a popular hiking trail and should be maintained for free public access and preserved from developments in the future. There are two small piers near the village and another pier to the northeast of the Area. The Area is also accessible by boats from the nearby Wong Shek, or from the more distant Ma Liu Shui, Tai Po.

Sewerage

3.3.11 There is no existing or planned public sewer for the Area. Any increase in population or number of visitors to the Area or further recreation/residential developments will require additional facilities.

Other Infrastructure and Utility Services

3.3.12 The Area is provided with electricity and telephone services. Potable water supply has been provided to the existing facilities and village houses in the Area. However, there is no existing or planned drainage system in the Area.

Geotechnical

3.3.13 The Area is located below steep natural terrain with a long history of instability and may be affected by potential natural terrain landslide hazards. For developments within the Area, natural terrain hazard studies may be required to ascertain the scale of the hazards and to provide suitable hazard mitigation measures, if found necessary, as part of the developments.

3.4 Development Opportunities (Figures 8 and 9)

Conservation and Natural Landscape

3.4.1 Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore

with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. The woodland is ecologicallylinked to the natural habitats in the Country Park and supports protected plant species. Uncommon plant species have also been found in the Area. The intertidal mudflat supporting various species of mangroves and a high diversity of mangrove fauna can be found straddling the edge of the Area and the sea. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Fronting onto the sea bay with the village situated in its central part and two natural streams flowing through the valleys, the Area forms a continuous scenic belt at the Chek Keng Hau along the MacLehose Trail.

3.4.2 In general, the Area is natural and rural in character, has high landscape and scenic value. It is worthy of conservation while the scale of the village development should be compatible with the surrounding landscape and rural setting.

Tourism, Recreation and Agriculture Potential

3.4.3 The popular MacLehose Trail traverses the Area, connecting it with Pak Tam Road to the west, and Tai Long Wan, High Island Reservoir and Pak Tam Chung to its east and south. There are a variety of recreational facilities in the nearby Sai Kung East and West Country Parks, including a network of hiking trails, 13 camp sites, 36 barbecue sites

(including the Pak Tam Chung Barbecue Site for the Disabled) and the Pak Tam Chung Visitor Centre. The Bradbury Hall Youth Hostel is in close proximity to the northeast of the Area and the Jockey Club Wong Shek Water Sports Centre is located near Wong Shek Pier, which is accessible by boats from Chek Keng (**Figure 8**). There is little agricultural activity in the Area. Although the extensive abandoned farmland in the Area should possess potential for agricultural activities, as most of these areas have already been turned into shrubland or woodland after being abandoned for decades, clearance of vegetation will be required to return the land for agricultural activities.

3.4.4 The section of the MacLehose Trail passing through the Area should be maintained for free public access and preserved from development in the future.

3.5 Development Pressure

- 3.5.1 Due to its ecological, landscape and scenic value with access by walking trails and boats, there is an urgent need to better protect the natural and landscape character of the Area from uncontrolled development.
- 3.5.2 Chek Keng Village is the only recognized village within the Area. According to the LandsD, there are 20 outstanding Small House applications in the Area, and the 10-year Small House demand forecast provided by the Indigenous Inhabitant Representative (IIR) of Chek Keng is 254.

3.5.3 Suspected illegal incense tree felling on Government Land was detected during a recent site visit in September 2014 (**Figure 11**).

3.6 Development Proposals Received in the Course of Preparation of the Plan

3.6.1 As at November 2014, since the gazettal of the draft DPA Plan on 4.5.2012, no planning application in the Area has been received by the Board.

Submission from Kadoorie Farm & Botanic Garden Corporation

- 3.6.2 On 7.10.2014, Kadoorie Farm & Botanic Garden Corporation (KFBG) made a submission to the Planning Department (PlanD) which includes a report on "Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves" and land use proposal for the Area.
- 3.6.3 According to KFBG's submission, the woodlands, watercourses and riparian zones, the mangroves and backshore vegetation, and the riparian grasslands in the Chek Keng study area²are of high conservation importance and should be covered by an appropriate land use zoning such as the "Conservation Area" ("CA") zone under the planning system. No development incompatible with surrounding areas or the natural heritage of these areas should be

authorized. From the ecological and nature conservation perspectives, due to the strong ecological and functional linkages, the Chek Keng Country Park Enclave is very much part of the Country Park system, and thus the Government should consider incorporating it, or areas of high conservation importance therein, into the Sai Kung Country Park.

Submission from IIR of Chek Keng Village

3.6.4 On 13.11.2014, the IIR of Chek Keng Village submitted a preliminary land use proposal to PlanD. He considers that the area of the "V" zone in the DPA Plan is insufficient to meet the Small House demand and proposes to expand the "V" zone to the east and west along the two natural streams. Other preliminary land use proposals mainly include: (i) three clusters of village hotels in the proposed "V" zone; (ii) the proposed "G/IC" zone on both sides of the eastern stream for a tourism facility for the seniors and disabled and a university specialized in environmental protection and organic farming; (iii) the proposed "Agriculture" zone along the eastern side of the eastern stream; (iv) the proposed "Recreation" zone in the western part of the Area for holiday resorts; (v) the proposed "Conservation Area" zone for the Holy Family Chapel and its immediate environs; (vi) two strips of 10m-wide "Coastal Protection Area" zone near the two small piers along the coast; (vii) 10m-wide buffer zone on both sides of the two natural streams; and (viii) a central sewage treatment system for the Area. The

² This also covers the area 50m from the boundary of the Country Park Enclave.

IIR indicates that he would submit a detailed report including development proposals as well as tree and ecological appraisals in due course.

4 <u>PLANNING PROPOSALS</u>

4.1 The Outline Zoning Plan

The draft Chek Keng OZP (the Plan) prepared under section 3(1) of the Ordinance is to provide a statutory basis for planning control over the Area. It will supersede the approved Chek Keng DPA Plan No. DPA/NE-CK/2, which was exhibited for public inspection under section 9(5) of the Ordinance on 10.5.2013. Uses and development that are always permitted and those for which the Board's permission must be sought in various zones are set out in a schedule of Notes attached to the Plan. Also accompanying the Plan is an Explanatory Statement to assist an understanding of the Plan and to reflect the planning intentions and objectives of the Board for various land-use zonings.

4.2 Planning Objectives

The development of the Area should gear towards the following objectives:

- (a) to provide a comprehensive planning framework to guide the development on an integrated and coordinated basis;
- (b) to conserve high natural landscape and ecological

significance of the Area in safeguarding the natural habitat and natural system of the wider area; and

(c) to preserve the natural and rural character of the Area.

4.3 Planning Principles

The main planning principles below are adopted for preparation of the planning and development proposals of the Area:

(a) The Area is surrounded by the Sai Kung East Country Park except where it fronts onto Chek Keng Hau in the north, forming part of the wider natural environment of the Country Park. The Area is mainly covered by woodland, which is ecologically-linked to the natural habitats in the Country Park and supports protected plant species. Uncommon plant species have also been found in the Area. The intertidal mudflat supporting various species of mangroves and a high diversity of mangrove fauna can be found straddling the edge of the Area and the sea. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Fronting onto the sea bay with the village situated in its central part and two natural streams flowing through the valleys, the Area forms a continuous scenic belt at the Chek Keng Hau along the MacLehose Trail. In general, the Area is natural and rural in character and has high landscape and scenic value. The natural environment and landscape and the rural setting should be preserved and protected.

(b) Small House development in the recognized village will be concentrated at suitable locations so as to preserve the rural character of the Area. Future development and redevelopment should also demonstrate such a low-rise characteristic and not to overtax the limited infrastructure.

4.4 Land Use Proposals (Figure 12)

- 4.4.1 In the designation of various land use zones in the Area, consideration has been given to the natural environment, physical landform, existing land use pattern, demand for Small Houses and availability of infrastructure. The following land use zones are proposed to be designated on the Plan.
- 4.4.2 Village Type Development ("V") (about 2.24 ha or 6.45%)
 - (a) The planning intention of this zone is to designate both the existing recognized village and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the

ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Board.

- (b) Chek Keng is the only recognized village within the Area. The boundaries of the "V" zone are drawn up having regard to the village 'environs' ('VE'), the number of outstanding Small House application, Small House demand forecast, local topography and site constraints. Areas of difficult terrain, dense vegetation, stream courses and burial grounds have been avoided as far as possible.
- (c) According to DLO/TP, there are 20 outstanding Small House applications in the Area, and the 10-year Small House demand forecast provided by the IIR of the Chek Keng Village is 254. Based on PlanD's preliminary estimate, land required for meeting the Small House demand of 274 is about 6.85 ha (Table 1).
- (d) With reference to the Small House demand and 'VE' for the recognized village of Chek Keng, PlanD has analyzed the site conditions of the area within 'VE' taking into account of the existing village settlement, previously approved Small House application ³, environmental

3

DLO/TP has advised that there was a Small House application approved in 2008 (see Figure 10), and since then, there has not been any other approval. The draft Chek Keng DPA Plan was first gazetted on 4.5.2012.

conditions, natural terrain and topography. The whole 'VE' of Chek Keng Village has an area of 8.2 ha and its majority with an area of 7.49 ha is included in the boundary of the draft OZP. The existing village cluster is situated in the central part of the 'VE' (Figure 10), with a few houses scattered along the coast. Most of the houses are concentrated on the southern side of the MacLehose Trail on platforms formed on hill slope. The village houses are mostly abandoned with many in dilapidated condition or become ruins. Some of the land in the village has been overgrown with dense vegetation. Apart from the existing village cluster, the land within the 'VE' mainly comprises woodland to the south of MacLehose Trail and backshore vegetation to its north. A vegetated knoll protruding into the sea bay dominates its eastern part. Hilly natural terrain occupies its southern half with part of it falling within the Sai Kung East Country Park. Its western part mainly covers abandoned agricultural land overgrown with trees, shrubs and grass with gentler topography, as well as a natural stream.

- (e) Throughout the plan-making process, concerned departments and the IIR have been closely liaised to ensure that their inputs and comments are duly taken into account in the delineation of the 'V' zone for the existing village cluster and potential areas for village expansion.
- (f) Given the natural environment, its ecological

and landscape value coupled with its limited accessibility due to lack of vehicular access, an incremental approach for designation of "V" zone for Small House development has been adopted with an aim to confining Small House development at suitable locations so as to avoid undesirable disturbances to the natural environment and overtaxing the limited infrastructure in the Area. Discounting the surrounding environmentally sensitive areas, including coastal area, woodland and streams which should be protected, a total of about 2.24 ha of land mainly covering the existing village cluster and its adjoining areas has been reserved for Small House development. Within the proposed "V" zone, about 1.04 ha of land is available capable of meeting about 15.2% (41 houses) of the total Small House demand for 274 houses (Table 1). Notwithstanding the above, planning application provides another measure for the villagers to apply for Small House development outside "V" zone subject to the Board's approval.

(g) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft DPA plan, whichever is the greater. Application for minor relaxation of these restrictions would be considered by the Board based on individual merits, taking into account site constraints, innovative architectural design and planning merits that would enhance the amenity of the locality.

- (h) As diversion of streams or filling of pond may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works.
- (i) There is no existing or planned public sewer for the Area. In accordance with the Environment. Transport and Works Bureau's Technical Circular (Works) No. 5/2005, under the current administrative practice. development proposals/submissions that may affect natural streams/rivers, the approving/processing authorities at various stages of the development should consult and collate comments from the Agriculture, Fisheries and Conservation Department (AFCD) and relevant authorities and incorporate relevant comments/advice as conditions of approval wherever possible. Accordingly, LandsD, when processing Small House grant and applications in close proximity to existing stream courses, should consult concerned departments including AFCD, Environmental Protection Department (EPD)

and PlanD to ensure that all relevant departments would have adequate opportunity to review and comment on the applications.

- (j) The "V" zone in the Area is located below steep natural terrain with a long history of instability and may be affected by potential natural terrain landslide hazards. For development within the Area, the developer(s) may be required to carry out natural terrain hazard study and to provide suitable hazard mitigation measures, if found necessary, as part of the development.
- (k) There is no existing or planned public sewer for the Area. For Small House development, the design and construction of the septic tank and soakaway systems need to comply with relevant standards and regulations, such as EPD's Practice Note for Professional Persons (ProPECC PN) 5/93 – "Drainage Plans subject to Comment by the Environmental Protection Department", for the protection of the water quality of the Area.
- 4.4.3 Government, Institution or Community ("G/IC") (0.08 ha or 0.23%)
 - (a) The planning intention of this zone is primarily for the provision of GIC facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government,

organizations providing social services to meet community needs, and other institutional establishments.

- (b) The major existing GIC facilities under this zone include a public toilet and a refuse collection point along MacLehose Trail in the eastern part of the Area, as well as the Holy Family Chapel at the southern fringe of Chek Keng Village.
- (c) To preserve the rural and low-rise character of the Area as well as provide spatial and visual relief, development/redevelopment within this zone should be restricted to a maximum building height as stipulated on the Plan (i.e. one storey) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft DPA plan, whichever is greater.
- (d) To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction may be considered by the Board through the planning permission system. Each application will be considered on its individual planning merits.
- 4.4.4 Green Belt ("GB") (28.82 ha or 82.96%)
 - (a) The planning intention of this zone is primarily for defining the limits of urban and sub-urban

development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.

- (b) The "GB" zone comprising mainly woodlands, shrublands, grasslands and streams, can provide a buffer between the village type developments and the Sai Kung East Country Park and conserve the natural and rural character of the Area.
- (c) The "GB" zone also comprises the western part of the permitted burial ground on the hillslopes along the northeastern fringe of the Area. It has been in existence for many years, and is considered as existing use intended for the burial of deceased indigenous villagers in the Area. To respect the local ritual and tradition, burial activities within this zone are generally tolerated.
- (d) There is a general presumption against development within this zone. Development in this zone will be strictly controlled. Development proposals will be considered by the Board on individual merits taking into account the relevant Town Planning Board Guidelines.
- (e) As diversion of streams, filling of land/pond or excavation of land may cause adverse drainage

impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works.

- 4.4.5 Coastal Protection Area ("CPA"): (3.60 ha or 10.36%)
 - (a) This zone is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It may also cover areas which serve as natural protection areas sheltering nearby developments against the effects of coastal erosion. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.
 - (b) This zone mainly covers the coastal area along 5 Chek Keng Hau to the north of MacLehose Trail (with the exception of a few houses and ruins at the village cluster) and the cliff of the vegetated knoll to the south of the trail. It primarily consists of sandy/rocky shore with cliff, backshore vegetation, mangroves and stream

estuaries. The intertidal mudflat straddling the edge of the Area and the sea supports seven species of mangroves including the uncommon *Heritiera littoralis* (銀葉樹) and a high diversity of mangrove fauna. Backshore vegetation is ecologically linked with mangroves and provides habitats for Sesarmine Crabs.

- (c) New residential development is not permitted under this zone. Redevelopment of existing houses may be permitted on application to the Board. The redevelopment of existing houses shall not result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication of the draft DPA Plan.
- (d) Diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on adjacent areas and adverse impacts on the natural environment. In view of the conservation value of the area within this zone, permission from the Board is required for such activities.

IMPLEMENTATION

Infrastructural Provisions

5.1 The Area is provided with electricity and telephone services. Potable water supply has been provided to the existing facilities and village houses in the Area. There are no existing and planned drainage and sewerage systems.

Statutory Development Control

- 5.2 The Plan provides a broad land-use framework for development control and implementation of planning proposals for the Area. More detailed plans will be prepared as a basis for public works planning and private developments.
- 5.3 At present, there is no overall programme for the provision of infrastructure within the Area. The implementation process will be gradual and may stretch over a long period of time depending on the availability of resources. It will be undertaken through the participation of both public and private sectors.
- 5.4 Notwithstanding the above, minor improvement works, e.g. access improvement and laying of utility services will be implemented through the Public Works Programme as and when resources are available. Private developments will be effected principally through private sector initiatives to develop or redevelop their properties in accordance with the zoned uses indicated on the Plan, provided that their proposals meet Government requirements.
- 5.5 The types of permitted developments and uses on land within the Area are listed in the Notes of the Plan. Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted developments and uses within the same zone are always permitted. Any development, other than those referred to in this paragraph above or in

conformity with this Plan or with the permission of the Board, undertaken or continued on land included in this Plan on or after the date of the first publication in the Gazette of the Notice of the draft DPA Plan may be subject to enforcement proceedings under the Ordinance. Any diversion of streams, filling of land/pond and excavation of land in the relevant zones on or after the date of the first publication in the Gazette of the Notice of the draft DPA Plan without permission from the Board may also be subject to enforcement proceedings. Moreover, there is a presumption against filling of ponds for temporary land uses/developments in conservation-related zonings, such as "CPA".

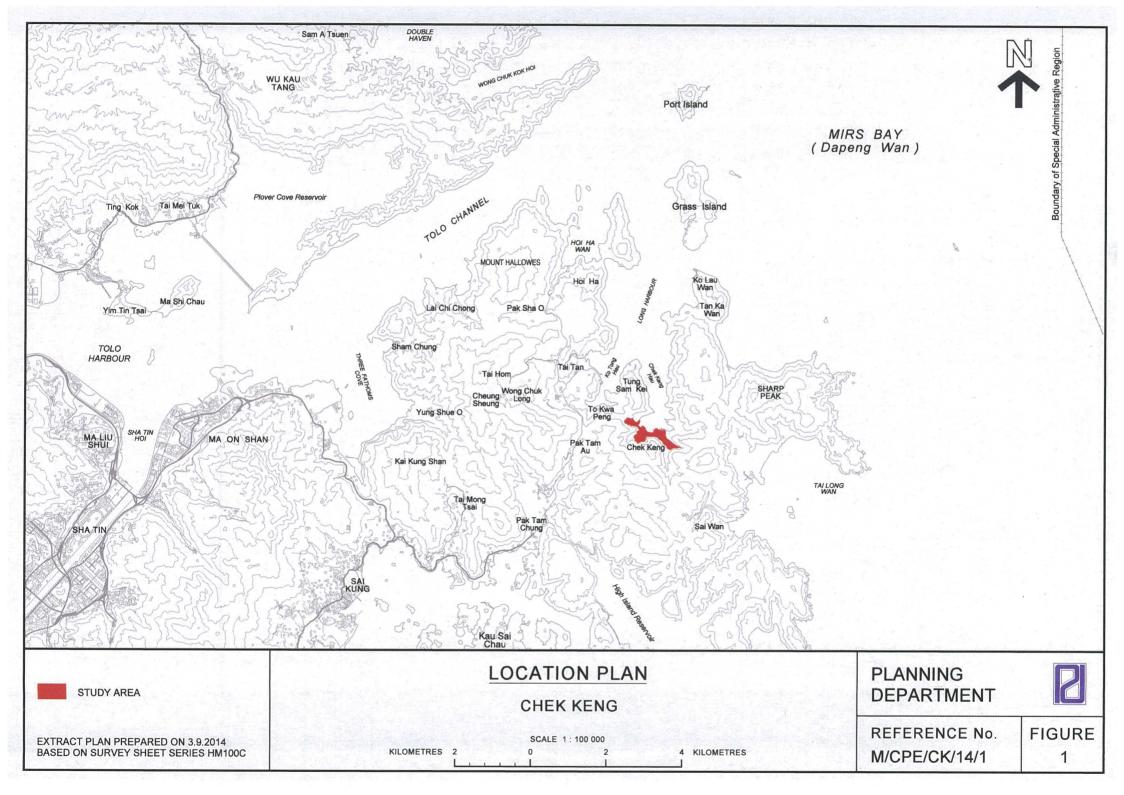
PLANNING DPEARTMENT December 2014

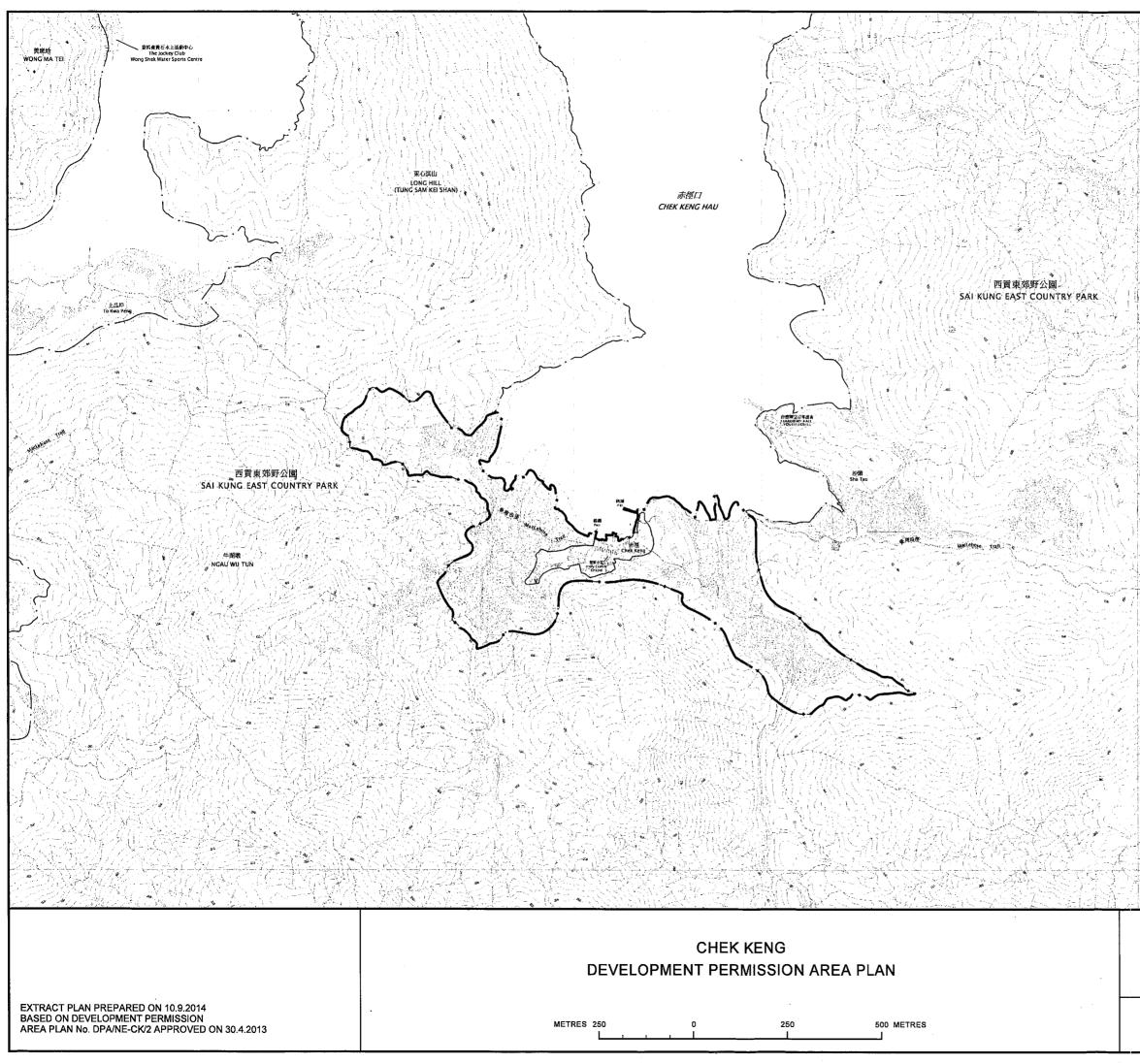
Table 1: Small House Demand for Chek Keng

	Small House Demand Figure in 2012		Small House Demand Figure in 2014		'VE' Area (ha)		Required	Available Land to	Percentage of the New Demand met by
Village	Outstanding Demand	10-year Forecast (2012 – 2021)	Outstanding Demand	10-year Forecast (2014 – 2023)	('VE' Area in OZP)	Draft OZP (ha)	Land to Meet New Demand (ha)	Meet New Demand (ha)	Available Land
Chek Keng	19	Nil*	20	254**	8.2 (7.49)	2.24	6.85	1.04	15.2%

* According to the TPB Paper No. 9068 on Consideration of the Draft Chek Keng DPA Plan No. DPA/NE-CK/C in April 2012, there were 19 outstanding Small House applications and the 10-year Small House demand forecast had not been available since 2007.

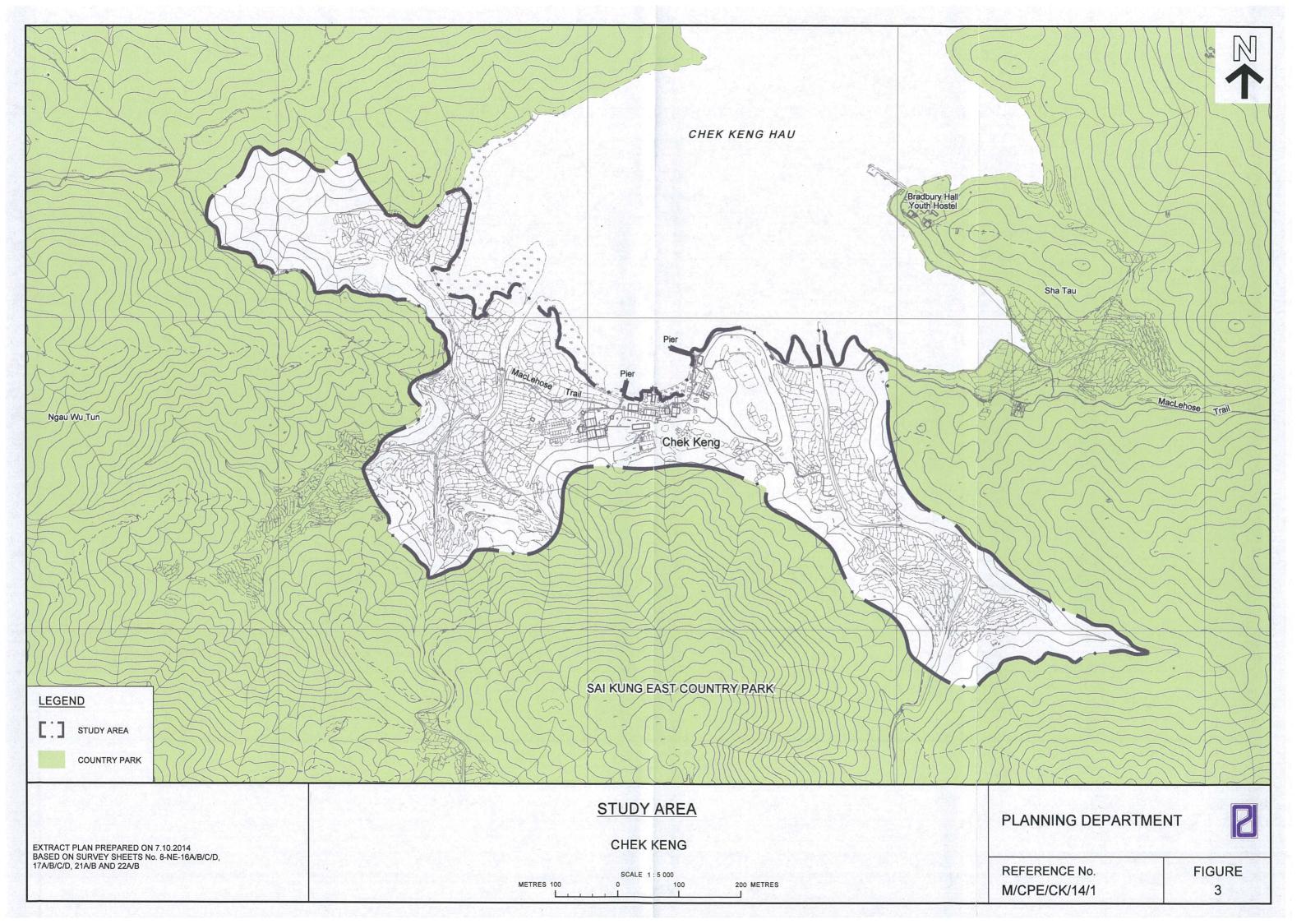
** On 14.11.2014, the DLO/TP advised that on 12.11.2014, the Indigenous Inhabitant Representative (IIR) submitted a 10-year Small House demand forecast to DLO/TP and the said forecast figure provided by IIR of Chek Keng was 254. DLO/TP further advised that the said forecast figure was not verified in any way by DLO/TP.

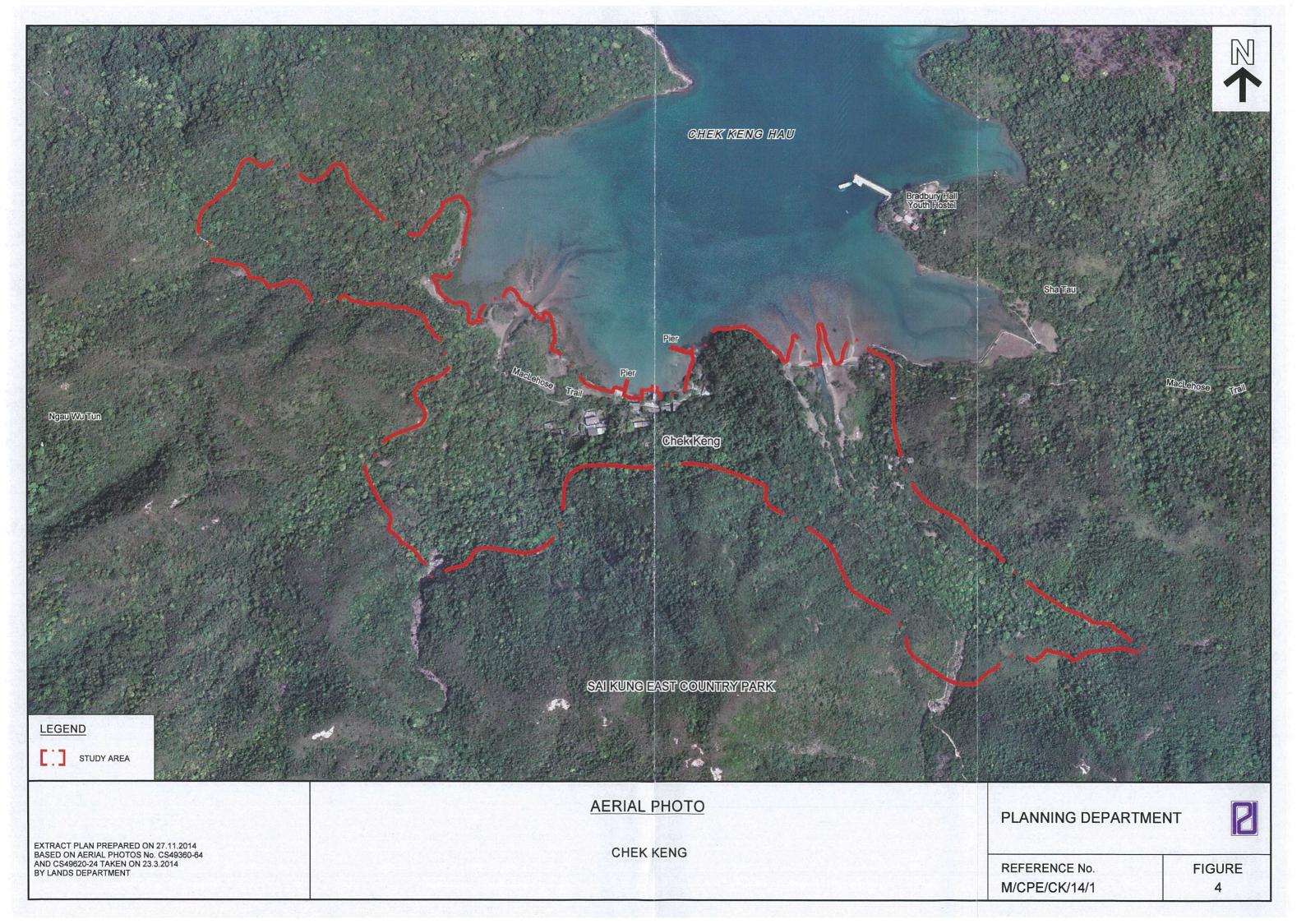


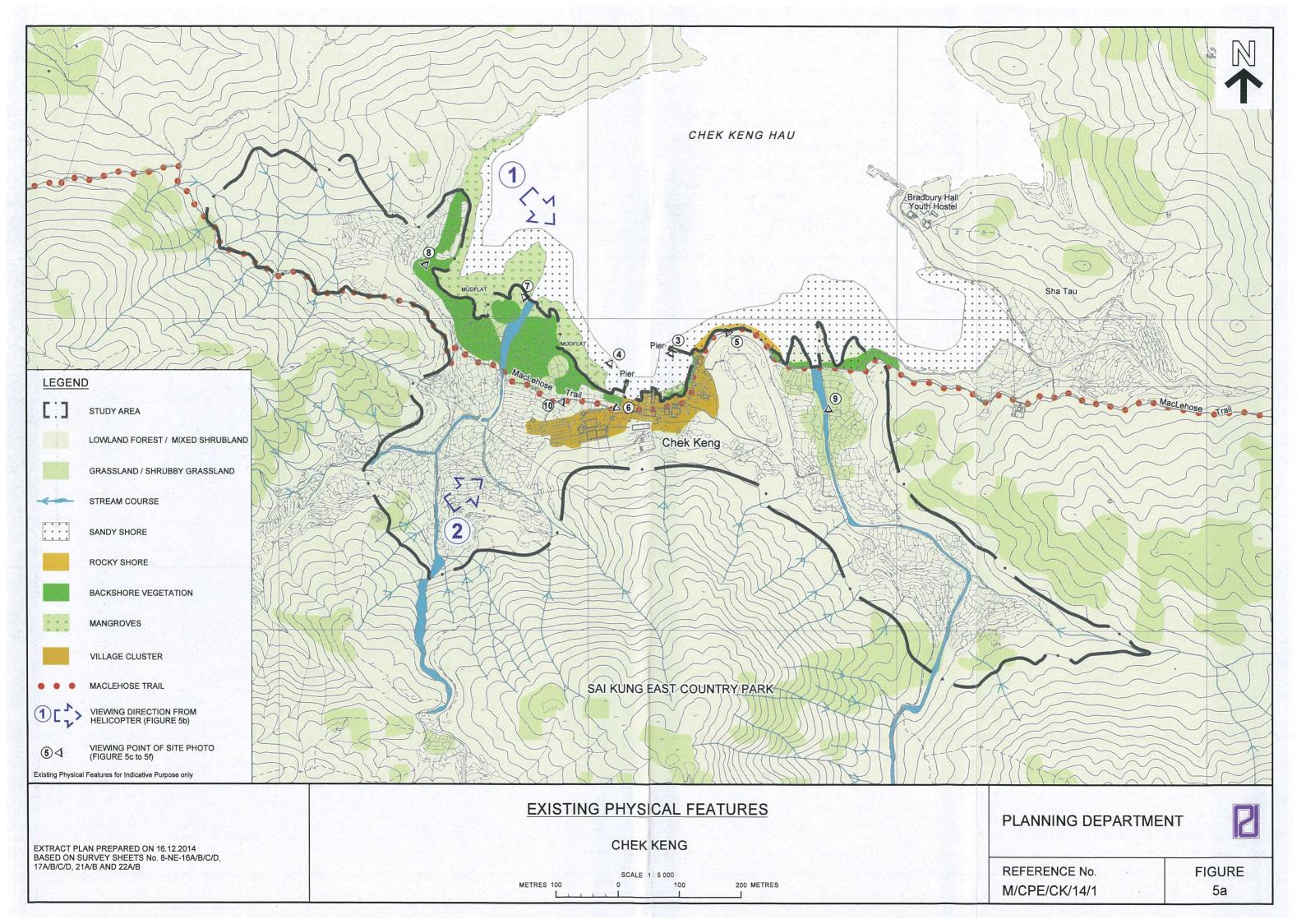


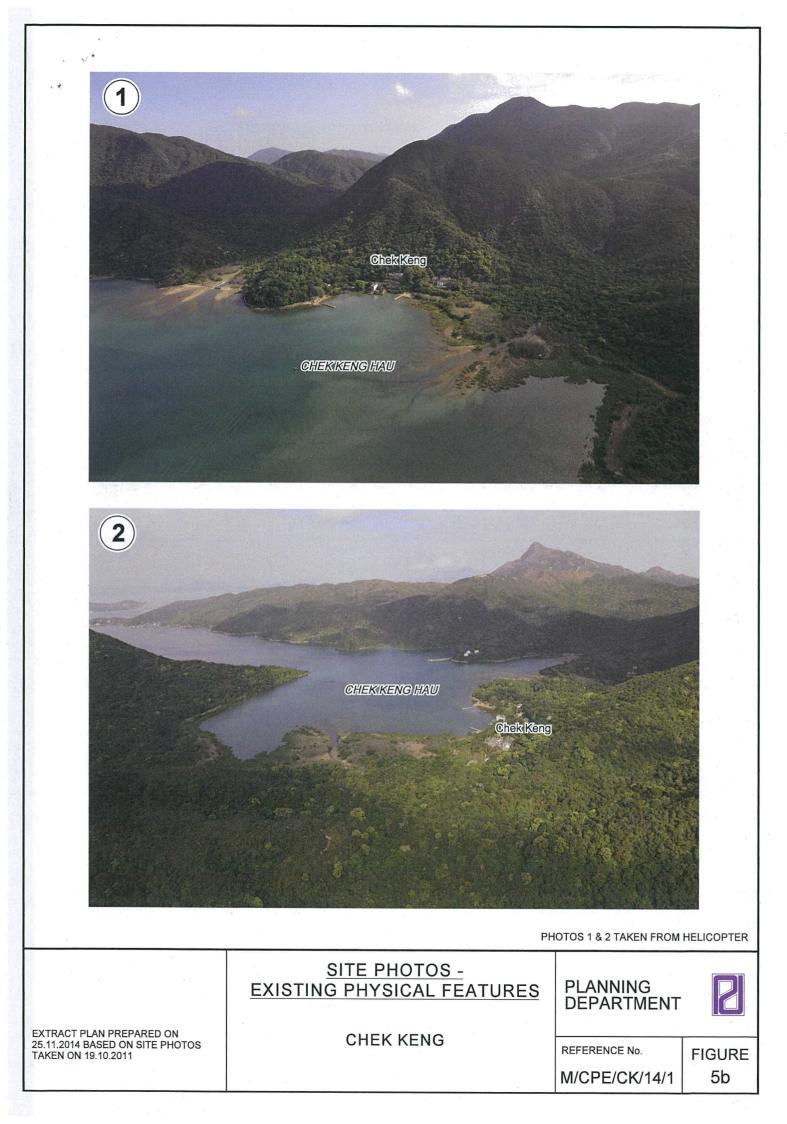
		圖例	1	·
		NOTAT		
	ZONES			地帶
	VILLAGE TYPE DEVELOPMENT	L	v	能村式發展
	MISCELLANEOUS BOUNDARY OF DEVELOPMENT PERMISSION AREA			其他 發展會批地級界線
	PERVISSION AREA BOUNDARY OF COUNTRY PARK / SPECIAL AREA			级量音型起爆尔器 级野公园/ 特别地區界線
	土地用 SCHEDULE	途及面 OF US	ī積一臂 ES AND	表 AREAS
	USES	大約面積 APPROXIMA 公頃		用途
	VILLAGE TYPE DEVELOPMENT	HECTARES	% 首分單 5.45	鄉村式發展
				· · · - · - · - · - · - · - · - · - · -
	UNSPECIFIED USE	32.53	93.56	非指定用法
	TOTAL AREA OF DEVELOPMENT PERMISSION AREA	34,74	100.00	────────────────────────────────────
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REFERENCE No.FIGUREM/CPE/CK/14/12











Cental Part of Chek Keng



Backshore Vegetation and Mangroves

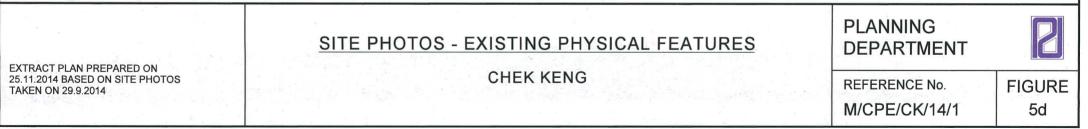
	SITE PHOTOS - EXISTING PHYSICAL FEATURES	PLANNING DEPARTMENT	2
EXTRACT PLAN PREPARED ON 25.11.2014 BASED ON SITE PHOTOS TAKEN ON 29.9.2014	CHEK KENG	REFERENCE No. M/CPE/CK/14/1	FIGURE 5c

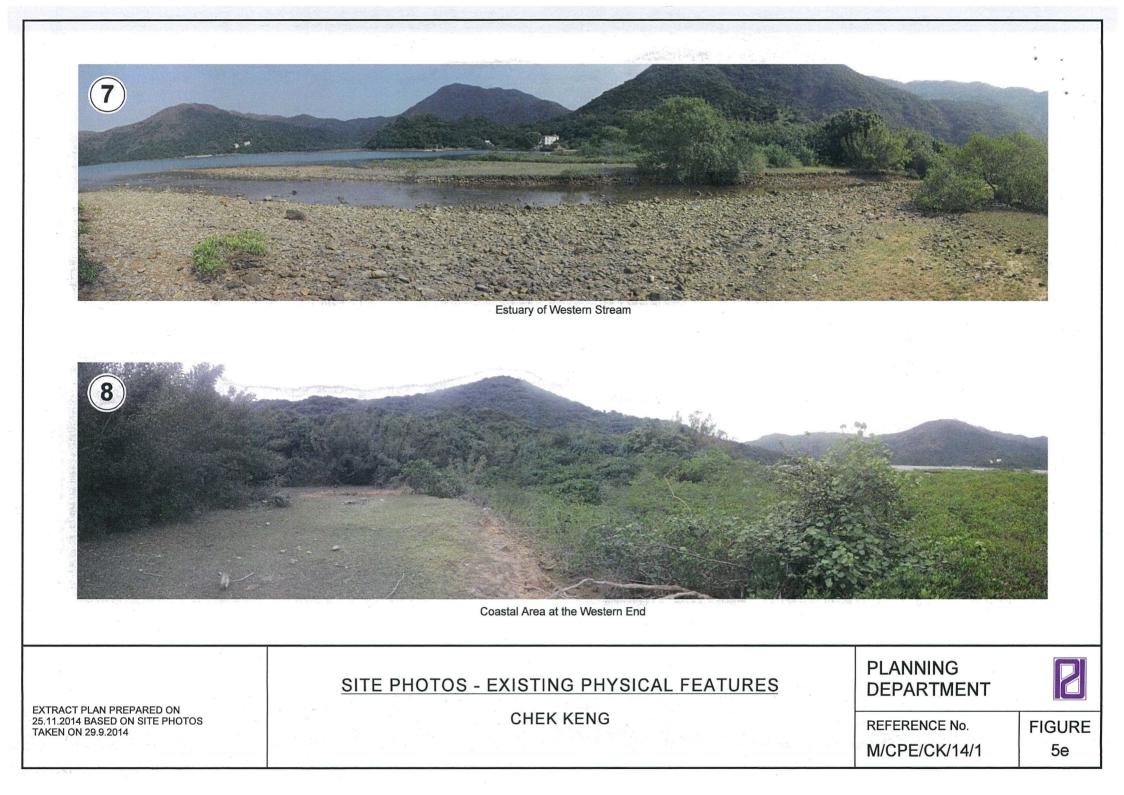


Cliff, MacLehose Trail and Sandy / Rocky Shore



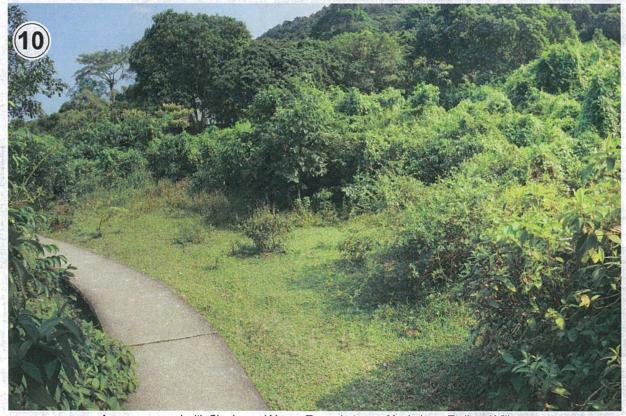
MacLehose Trail and the Coastal Area





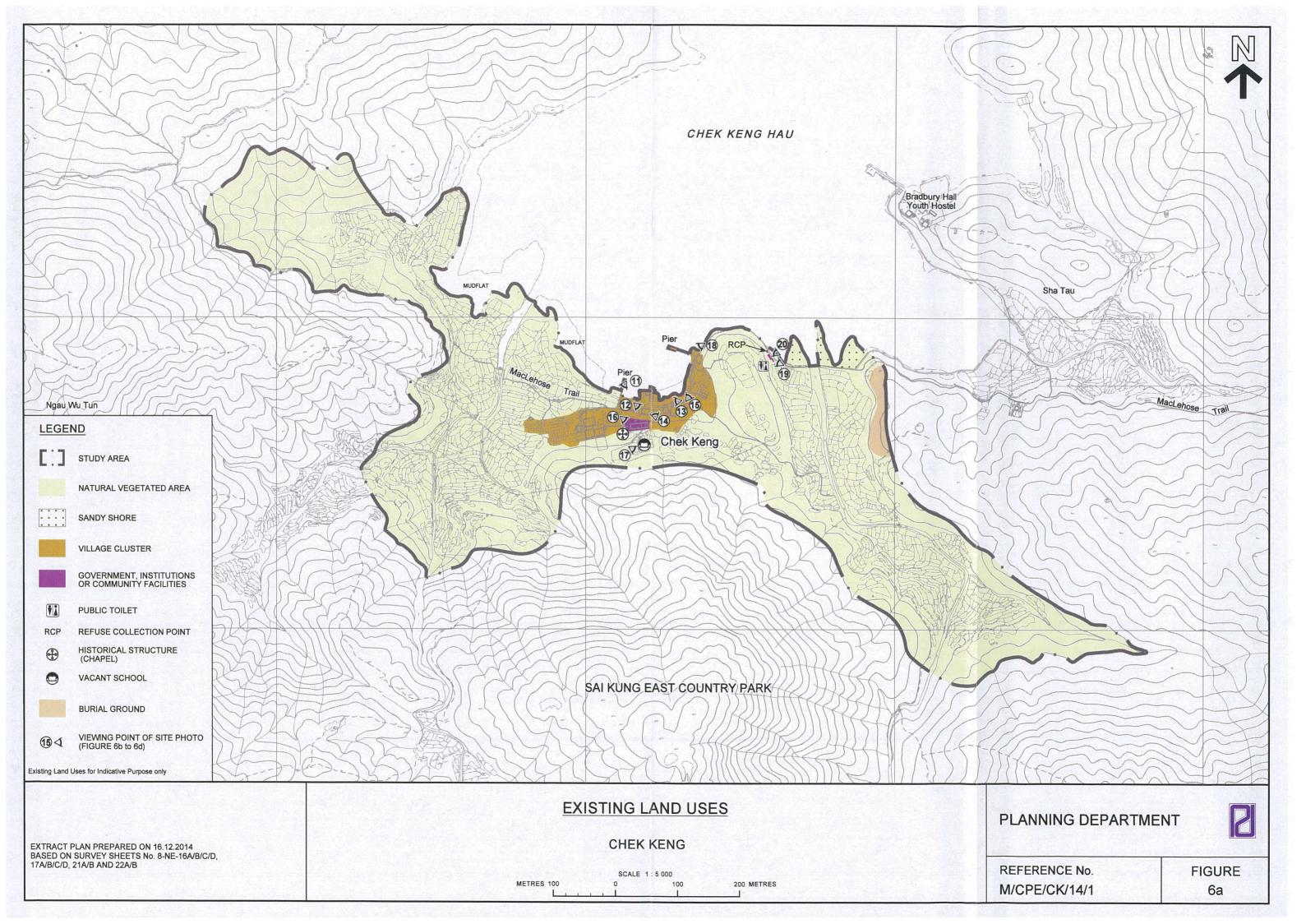


Eastern Stream and Adjacent Abandoned Agricultural Land



An area covered with Shrubs and Young Trees, between MacLehose Trail and Village







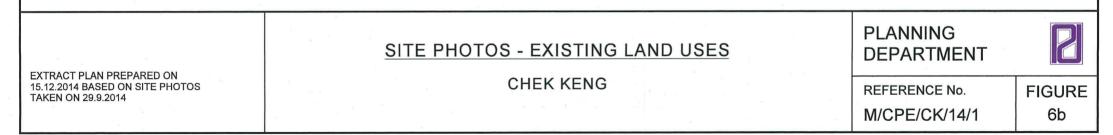
Houses and Ruins at the Coast



House Ruins



Abandoned Village House



Inland House Ruins



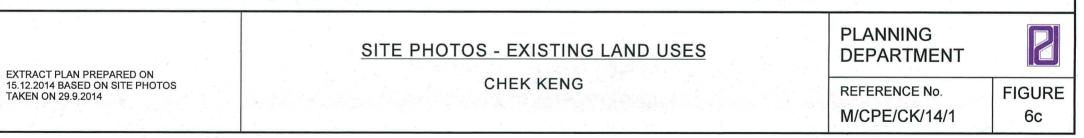
Holy Family Chapel (Grade II)



Abandoned Platform at the Coast



Abandoned School Site





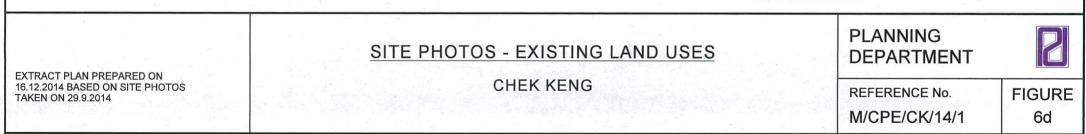
Primitive Pier

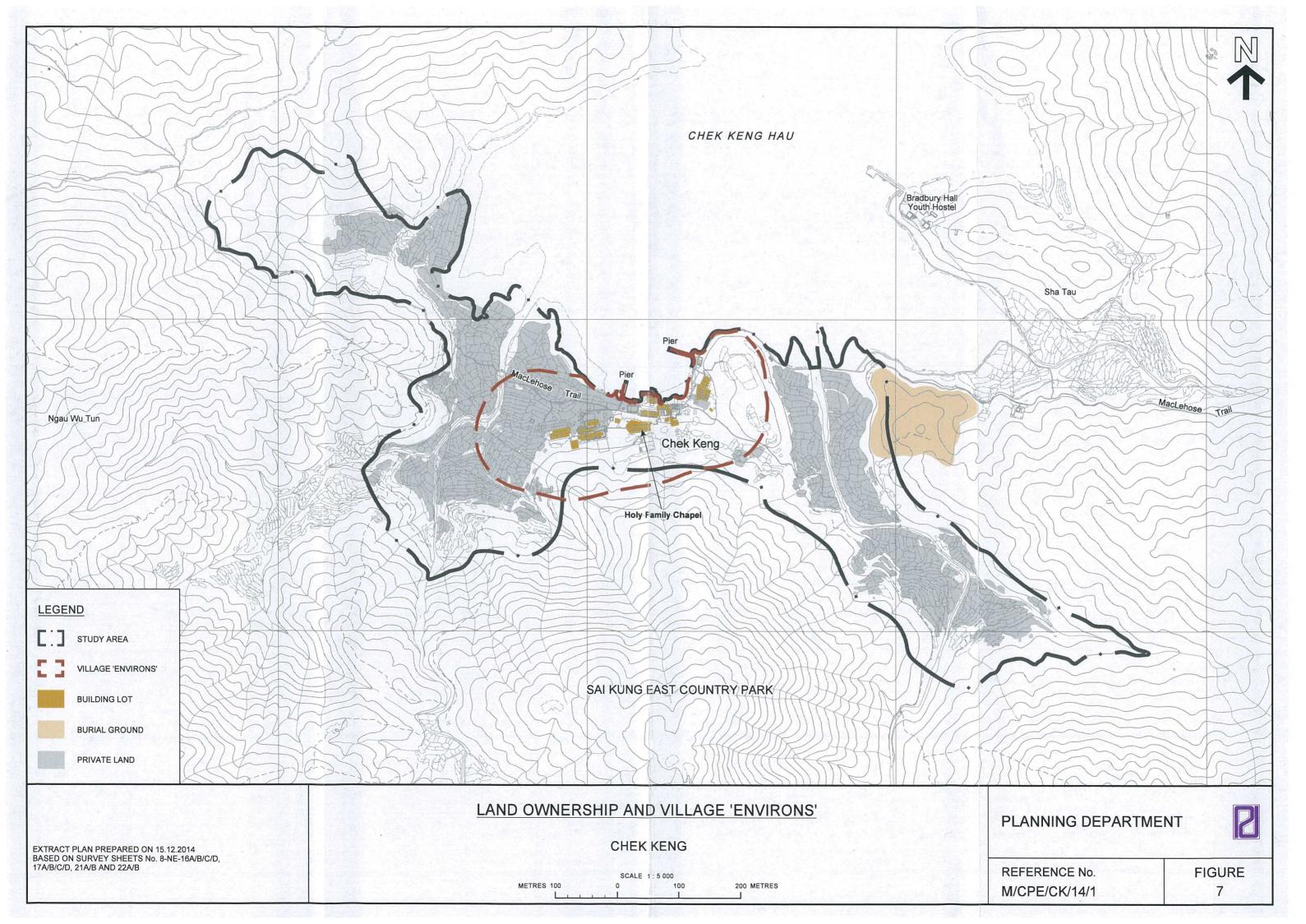


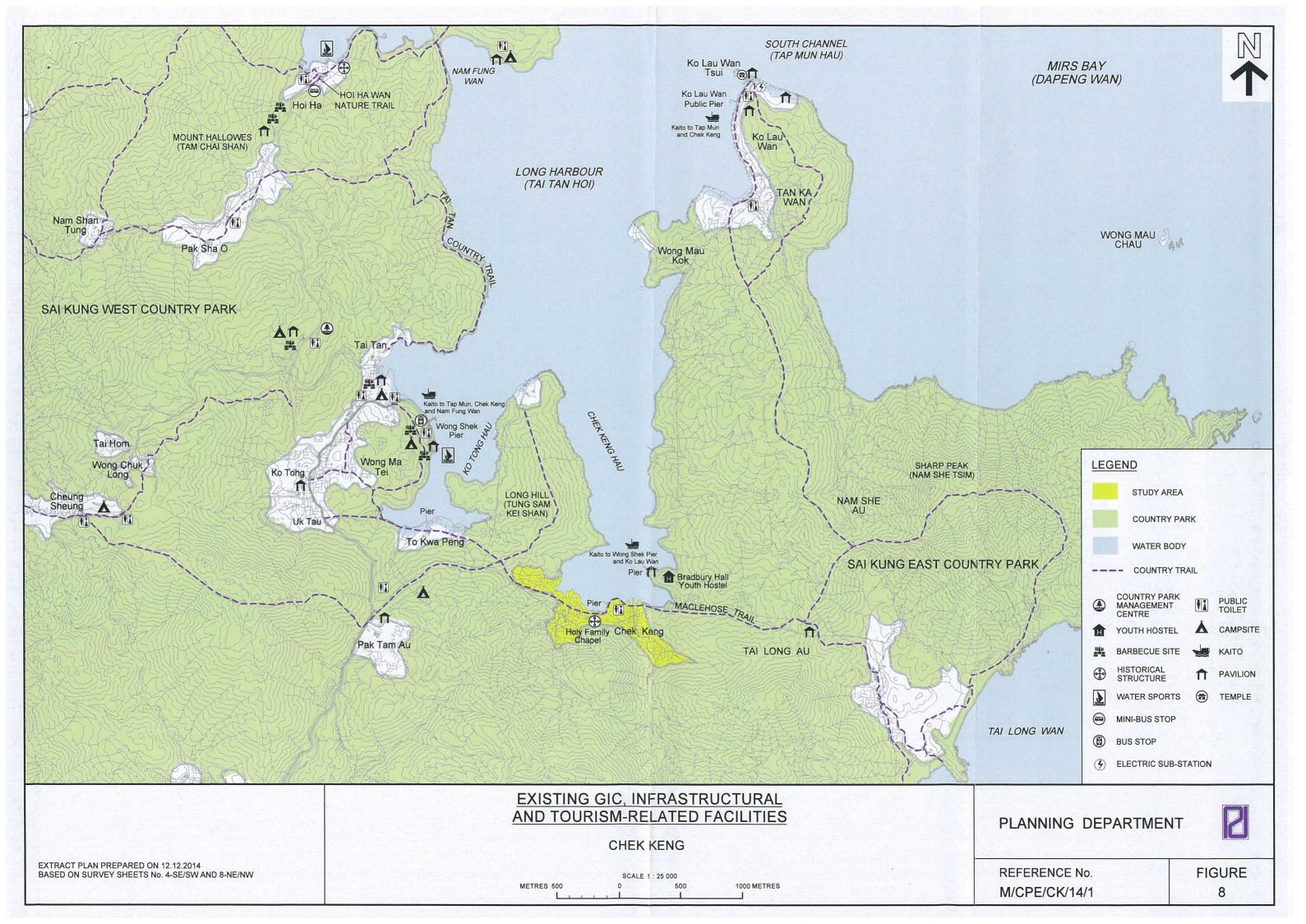
Public Toilet

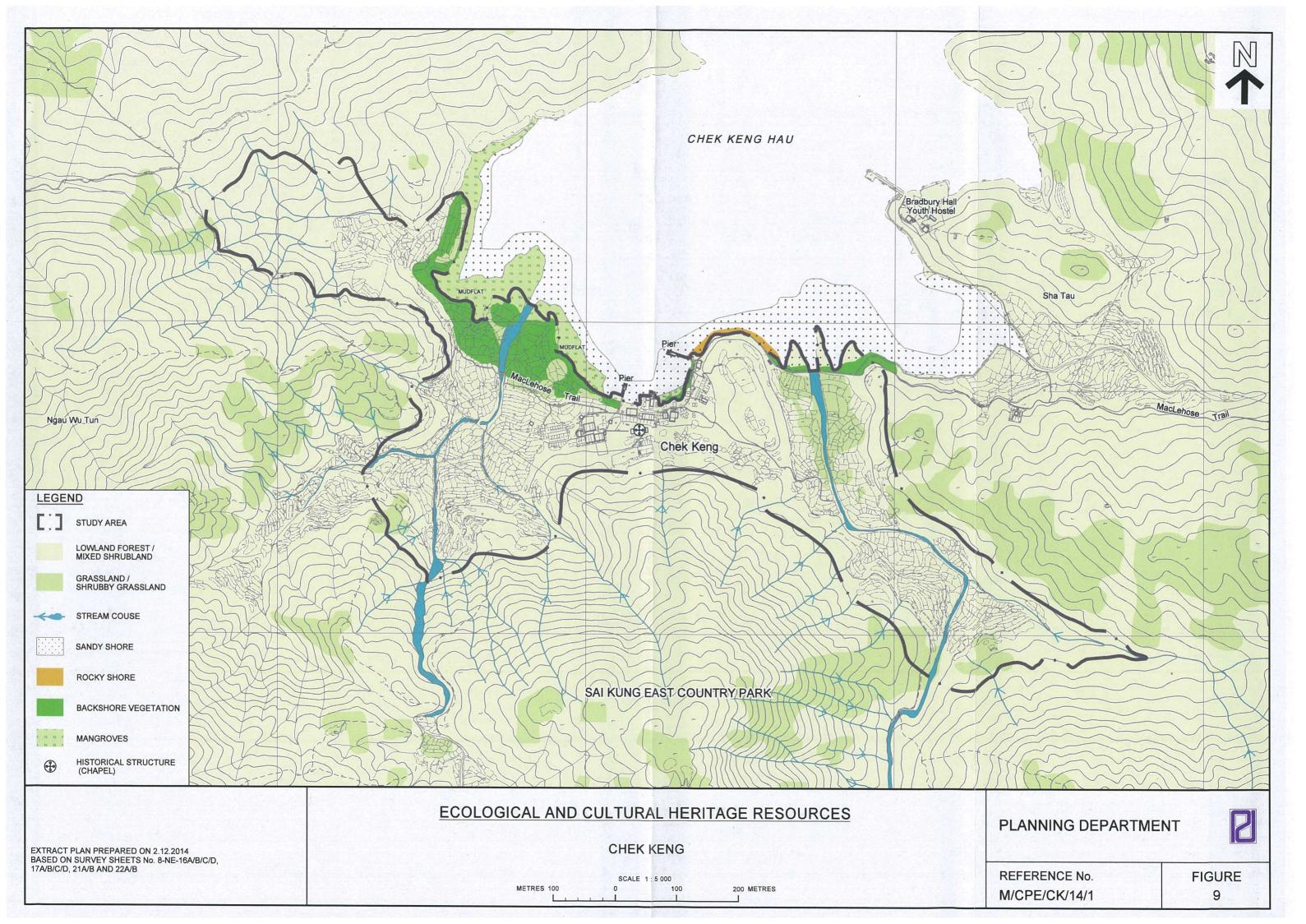


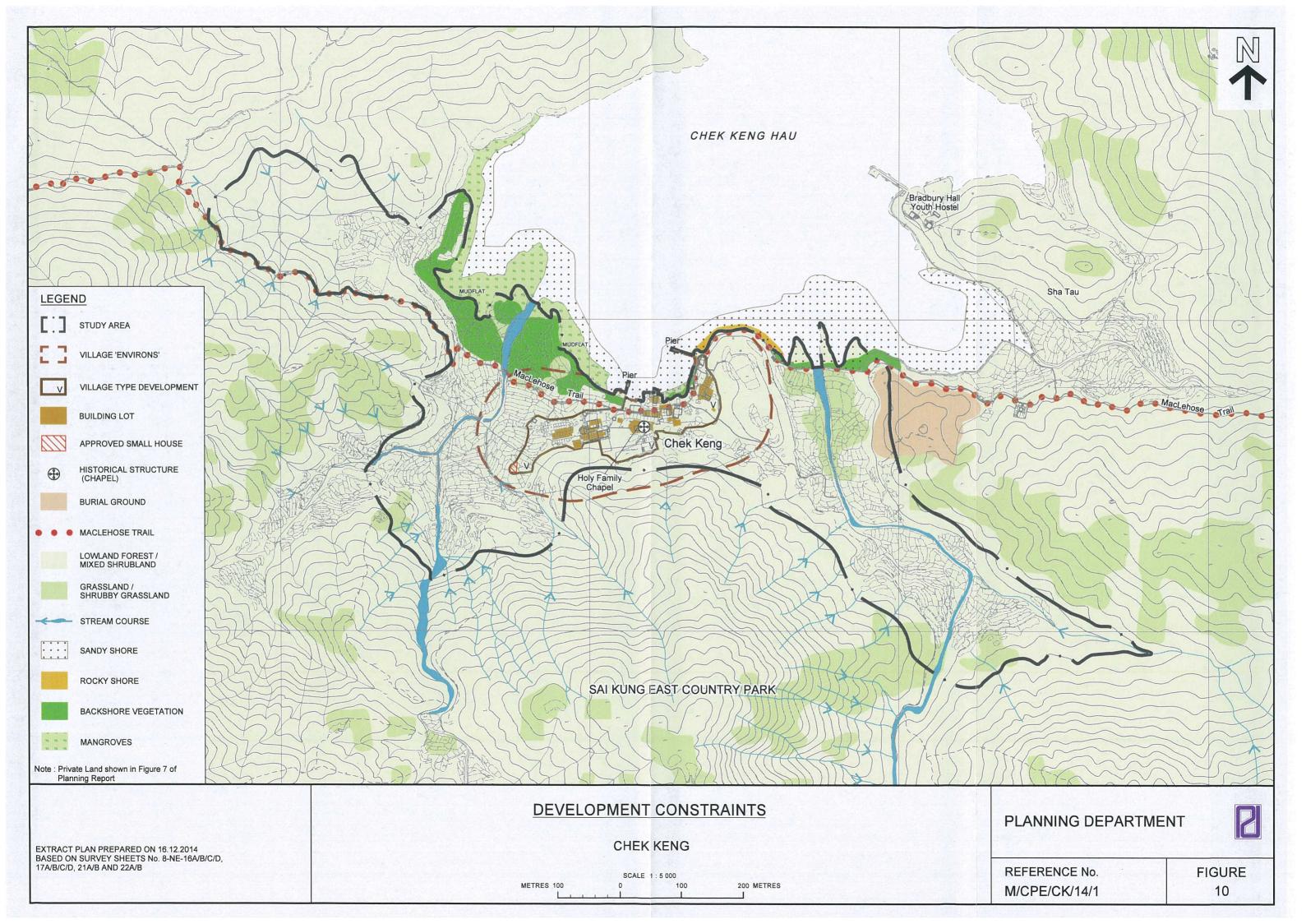
Refuse Collection Point













TREE 1



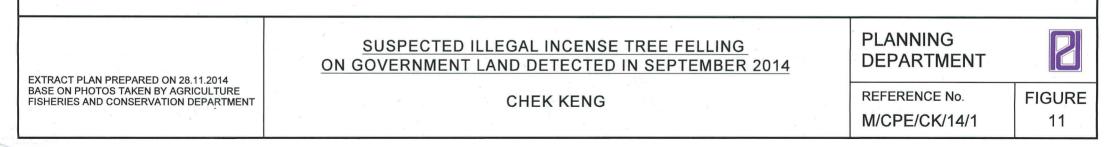
TREE 1

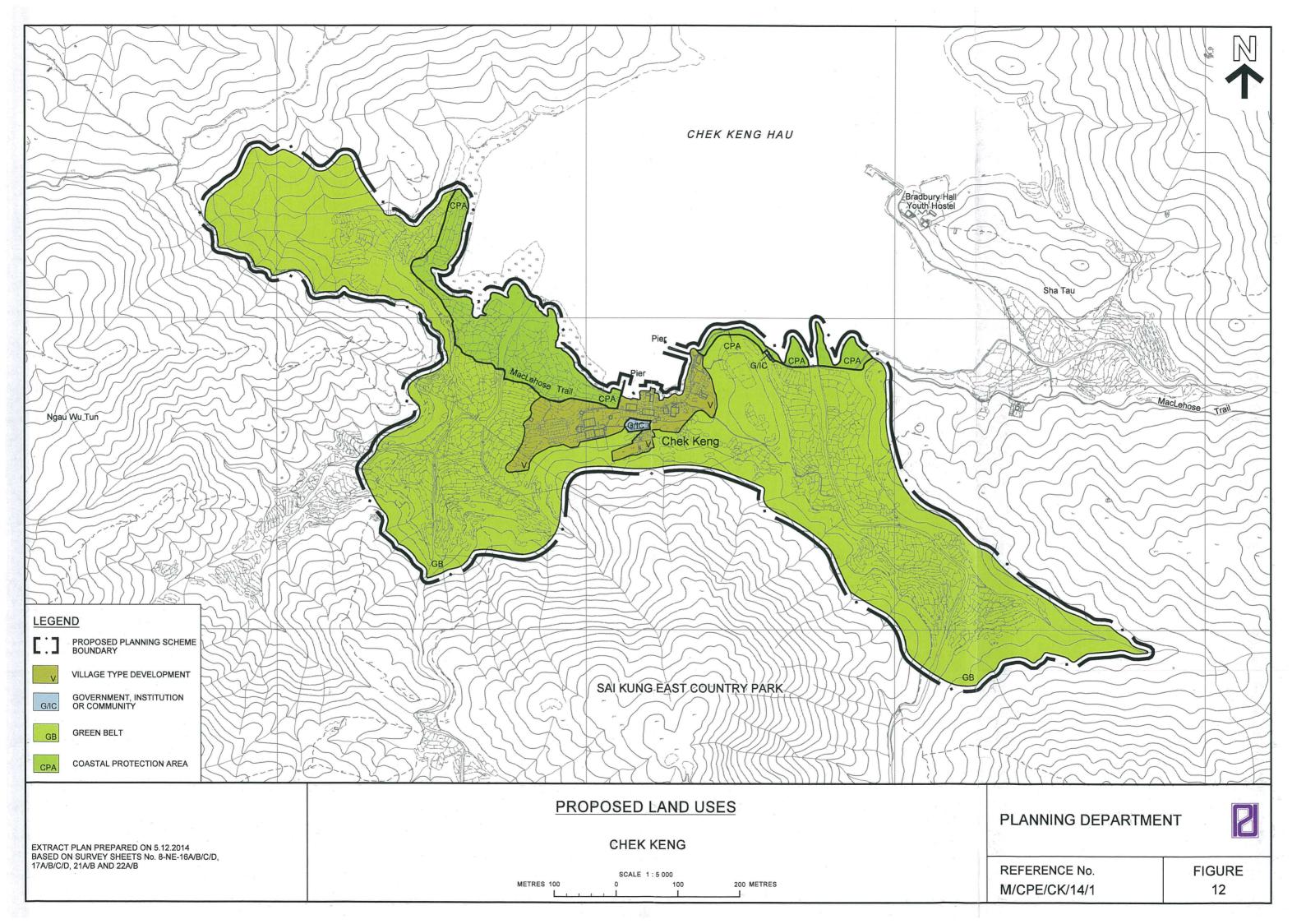


TREE 2

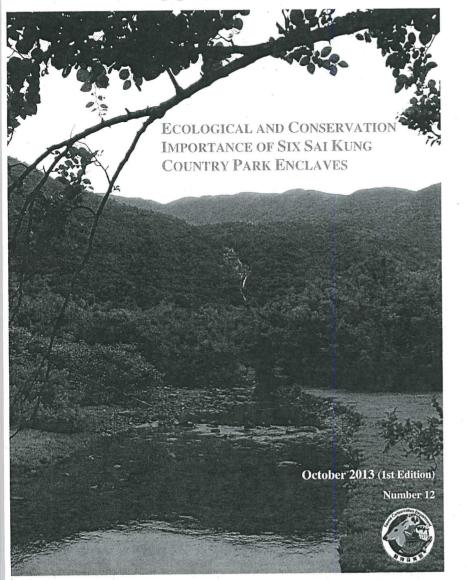


TREE 2









(1st Edition)

October 2013

Editors

Gary ADES, Tony NIP & Ming Chuan WOO

Contents

Contents	· · · · ·
Executive Summary	
1. Background and Introduction	
2. Methods	
2.1 Surgeon	
2.1 Sulveys	
3. Results	
3. Results	
3.1 Habitats and Vegetation	
3.2 Plant Species of Conservation Concern	
3.3 Amphibians and Reptiles	
3.4 Fish	
3.5 Crustaceans	1
3.6 Birds	
3.7 Mammals	
4. Habitats of High Conservation Importance	
4.1 Watercourses and Riparian Zones	
4.2 Woodlands	
4.3 Mangroves and Backshore Vegetation	
4.4 Marshes and Seasonally Wet Grasslands at PSO and	РТА2
4.5 Ponds at PTA	
4.6 Riparian Grasslands at CK	
4.7 Pond and Associated Marsh at KT	
4.8 Existing Agricultural Land at PSO	
5 Recommendation	
References	
Figures	
Appendices	
Appendix 1 Flora Species Recorded within Each Enclay	e
Appendix 2 Avian Species Recorded or Predicted to Oc	cur in the Enclave Habitats 10
Appendix 2. Tritan operios recorded of Treatered to Ser	

Abbreviations: PSO (Pak Sha O), PTA (Pak Tam Au), CK (Chek Keng), KT (Ko Tong)

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Document citation

Kadoorie Farm and Botanic Garden. 2013. Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves, Kadoorie Farm and Botanic Garden, Hong Kong Special Administrative Region. 108 pp.

Cover photo: Chek Keng

page 1

Executive Summary

Following the "Tai Long Sai Wan incident" in 2010 which saw the potential loss of an area of outstanding beauty to a private development and highlighted how vulnerable our local ecology and natural heritage have become, the Hong Kong Government made a promise to step up procedures to protect the Country Park (CP) enclaves not yet covered by statutory plans. In 2011, the Ombudsman also urged relevant departments and bureaux to cover those areas with statutory plans or incorporate them into the CP system.

At the time of writing, the Planning Department has been preparing Development Permission Area plans (DPA) or Outline Zoning Plans (OZP) for many of these areas, in consultation with the Town Planning Board. Meanwhile, the Agriculture, Fisheries and Conservation Department has incorporated several enclaves (including Tai Long Sai Wan) into the CP system (revised CP maps were gazetted in May 2013 for 3 enclaves), based on the advice from the Country and Marine Parks Board. There are still approximately 28 enclaves not yet appropriately protected (at time of writing).

With a view to facilitating future decisions regarding the conservation of the CP enclaves, KFBG and collaborators have carried out site visits and surveys of several enclave areas to obtain up-to-date ecological information, which can be shared with the public and authorities. It is hoped that more informed decisions can be developed based on the additional knowledge provided in this report. The present report covers six enclaves in Sai Kung: Pak Sha O and Pak Sha O Ha Yeung, Nam Shan Tung, Pak Tam Au, Ko Tong, To Kwa Peng and Chek Keng. We hope these findings can assist the relevant Government departments in making appropriate and informed decisions regarding the designated zoning plans for these areas, and support the incorporation of unprotected areas into the CP system.

Most natural and semi-natural habitats within the listed enclaves are of high conservation concern; indeed, from an ecological and conservation viewpoint, they are inseparable from the wider Sai Kung CP ecosystem. We urge that the government takes guidance from the Convention on Biological Diversity (extended to Hong Kong in 2011) in deliberating its planning decisions for the enclaves. Appropriate conservation zonings (under the CP system or the town planning system) and statutory control of these areas will help deter haphazard, unsustainable development and help to appropriately safeguard Hong Kong's important natural and built heritage for the wider community and future generations.

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

1. Background and Introduction

The "Tai Long Sai Wan incident" first came under the spotlight in mid 2010 (http://www.nshk.org.hk/pdf/c_awards/2010/010.pdf); the public reacted with great concern regarding the case and urged the Government to take immediate action to safeguard natural landscapes that are afforded no statutory protection (as in the case of Tai Long Sai Wan). The then Chief Executive announced in his Policy Address (in October 2010) that the Planning Department (PlanD) and the Agriculture, Fisheries and Conservation Department (AFCD) would protect the Country Park (CP) Enclaves not yet covered by statutory planning control; in September 2011 the Ombudsman also recommended that (a) *DevB* (Development Bureau) and *EnB* (Environment Bureau) should urge their executive departments to, as directed by the Chief Executive, expeditiously prepare statutory plans for those enclaves that are still unprotected or to incorporate them into country parks, in order to ensure that all enclaves are properly protected; and (b) *AFCD* should consider incorporating private lands that have conservation value into country parks in accordance with the revised CMPB (Country and Marine Parks Board) criteria (http://www.ombudsman.hk/concluded/2011_09_02.pdf).

Also in 2011, the Convention on Biological Diversity (CBD) was extended to Hong Kong, and in the 2013 Policy Address, the Chief Executive Mr. C.Y. Leung reported that the Government would appropriately implement the requirement of this international Convention and a Biodiversity Strategy and Action Plan (BSAP) would be developed; Article 8 of this international Convention lists all necessary actions that are essential for in-situ conservation (http://www.cbd.int/convention/articles/default.shtml?a=cbd-08), and some relevant items are documented below:

- (a) Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity
- (b) Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity
- (c) Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use
- (d) Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings
- (e) Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas
- (f) Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies
- (i) Endeavour to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and the sustainable use of its components
- (k) Develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations

FBG Publication Series No.12

The present report was compiled with the above incidents and Government promises in mind. Six CP enclaves in Sai Kung were selected for documentation partly due to the fact that some information on these sites was already available and also because these sites were considered of ecological importance: Pak Sha O (PSO: including Pak Sha O Ha Yeung (PSOHY)), Nam Shan Tung (NST), Pak Tam Au (PTA), Ko Tong (KT: including Ko Tong Ha Yeung (KTHY) and Tai Tan (TT)). To Kwa Peng (TKP) and Chek Keng (CK) (Figure 1). The aim of this report is to provide up-to-date ecological information for relevant authorities to ensure that the CP enclaves are afforded appropriate protection. The information was gathered by experts from Kadoorie Farm & Botanic Garden (KFBG) and experts from a local ecological consultant with more than ten years' experience in ecological survey and assessment work in Hong Kong, including Sai Kung. The survey was sponsored by KFBG.

2. Methods

2.1 Surveys

Aquatic fauna were surveyed by direct observation and snorkelling during the wet season of 2012. From October to December 2012, botanists and ornithologists from the consultant carried out habitat, vegetation and bird surveys; for each enclave, the study area constitutes the enclave itself and accessible areas within 50m from the boundary. Habitat mapping was conducted by comparing aerial photographs and later through ground-truthing; vegetation surveys were conducted at the same time as the ground-truthing. Bird surveys were carried out on foot, beginning within 40 minutes of sunrise and continuing until around 10.30 am. Two surveys of each enclave were conducted, with the exception of PSO, for which more or less weekly surveys were conducted during the study period (October to December 2012). Results of the survey work were supplemented with data collected from occasional ad hoc surveys undertaken over the past seven years at PSO. Data collated from this longer and more intense period of observation were used to inform assessments of other enclaves in view of their close proximity (maximum 4 km between the two most distant) to each other.

2.2 Data from Other Sources

Personal observations by KFBG staff regarding the herpetofauna recorded at the enclaves were gathered to supplement the findings in this report. These observations were made in recent years (e.g., after 2000). Unpublished and published data from AFCD (e.g., AFCD newsletter Hong Kong Biodiversity) and other sources (e.g., Hong Kong Bird Watching Society) and scientific literature were reviewed and useful information related to the enclaves was extracted.

The general status of different habitats was assessed based on site observation, relative biological diversity and the presence or absence of species of conservation interest. Status of species mainly follows Fellowes et al. (2002), Hu et al. (2003), IUCN Red List, AFCD's database and other documented sources.

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

3 Results

3.1 Habitats and Vegetation

The area of habitat in each studied enclave (including the area 50 m from the boundary) is provided in Table 1. A complete plant list is provided in Appendix 1.

Table 1. Habitats in each study area (%)

Habitat type	PSO	NST	PTA	KT	ТКР	СК	
Channelized watercourse			0.27				
Backshore vegetation				0.36	1.43	3.83	1
Developed/ Village area	4.99	0.84	4.82	9.17	1.31	1.94	
Dry agricultural land	0.83			0.14			
Fung shui Woodland	4.76	4.97	3.64	2.62	6.96	11	
Grassland	0.41	7.65	5.00			1.60	
Shrubby grassland	0.88		7.65	0.99	6.25		
Mangrove				1.21	6.14	3.11	
Marsh	0.92		0.95	0.41			
Natural watercourse	2.82	1.99	0.85	2.62	0.88	3.42	1
Plantation			1.26				
Pond			0.31	0.61	÷		
Ruderal area*	0.06			0.18	1.04	0.19	
Sea				4.49	14.09	11.00	1
Seasonally wet grassland	0.12		0.91	0.36			
Secondary woodland	· 84.21	84.55	72.71	76.84	61.47	74.91	1
Waste ground			1.63		0.43		1
Total %	100.00	100.00	100.00	100.00	100.00	100.00	Tota
Total area (ha)	48.16	9.23	22.40	97.20	17.11	56.23	250.3

* waste ground with sparce vegetation cover (often invasive plants)

3.1.1 Pak Sha O

Ten habitats were identified within the PSO study area, comprising native secondary woodland, fung shui woodland, marsh, developed/village area, seasonally wet grassland, dry agricultural land, natural watercourse, grassland, shrubby grassland and ruderal area. Figure 2 shows the habitat map of PSO and PSOHY.

Native secondary woodland is the dominant habitat type within this enclave. The lowland woodland seems to have evolved from abandoned agricultural land through natural succession, while the remaining woodland located on the hillside is relatively mature. The woodland is extensively covered by climbers such as *Byttneria aspera*. The overstorey of this woodland habitat mainly consists of tree species Cratoxylum cochinchinense, Alangium chinense, Viburnum odoratissimum and Mallotus paniculatus of young age. Dominant species underneath the overstorey include common shrubs and trees (such as Psychotria asiatica, Ardisia guinguegona and Daphniphyllum calycinum). A total of 100 floral species were identified. Five floral species of conservation concern were identified, including the herb Houttuynia cordata, fern Cibotium barometz, climber Gnetum luofuense, shrub Pavetta hongkongensis and tree Aquilaria sinensis.

A specimen of *Ludisia discolor* is present in the woodland at PSO. This species is regarded as infrequent but widespread in HK by Barretto *et al.* (2011), who note that most of Hong Kong's subpopulations are now feared extinct. They assign it a Red Data status of EN in Hong Kong.

Two areas of *fung shui* woodland are present; these are located behind the village areas at PSO and at PSOHY, respectively. PSO *fung shui* woodland is located in the south of the enclave and PSOHY *fung shui* woodland is located in the north (see **Figure 2**). The vegetation compositions of the two woodlands are similar and mainly consist of a closed canopy of common *fung shui* woodland native tree species such as *Aporusa dioica*, *Schefflera heptaphylla* and *Cinnamomum parthenoxylon*, with a well-developed understorey dominated by *Byttneria aspera*, *Maesa perlarius* and *Psychotria asiatica*. The presence of mature trees with average Diameter at Breast Height (DBH) of 30-60cm and well-developed woody climbers (*Byttneria aspera* and *Gnetum luofuense*) indicates that they are old-growth woodlands with limited human disturbance. Both *fung shui* woodlands support a moderate plant diversity (77 and 66 floral species were identified within PSO and PSOHY, respectively), with four plant species of conservation concern recorded, including the fern *Cibotium barometz*, climber *Gnetum luofuense*, shrub *Pavetta hongkongensis* and tree *Aquilaria sinensis*.

Four significant areas of natural freshwater marsh are present within the enclave. One of these is at PSOHY, while the remaining three are at PSO. The marshes evolved from abandoned agricultural land through natural succession. They have been utilized and maintained by feral cattle and are mainly dominated by wetland- or marsh-associated plant species including Geissapis cristata, Ischaemum barbatum, Floscopa scandens, Philydrum lanuginosum, Impatiens chinensis and Cyclosorus interruptus. This habitat supports moderate plant diversity (53 floral species) compared with similar habitat elsewhere in Hong Kong. Three species of conservation concern were identified, including the herbs Houttuynia cordata and Geissapis cristata, and one orchid species, Liparis ferruginea. Although the orchid species was only recorded in the marsh of PSOHY, the close proximity (< 500m) to the other three marshes in PSO and the fact that the growth environments of these marshes are similar to that of PSOHY, might suggest the likelihood that the same orchid species occurs at all three marshes. This orchid species is considered to be scarce and restricted in Hong Kong, and the local population has been estimated to be less than 50 individuals (Barretto et al. 2011); therefore it is considered to be locally Endangered (Barretto et al. 2011). Since this species is highly habitat-specific (wet lowland grassland) and this habitat type is under threat in Hong Kong, Barretto et al. (2011) have urged that conservation action should be undertaken to protect this species and its habitat.

An area of dry agricultural land is present at PSO. This was originally a natural freshwater marsh (Figure 3) evolved from abandoned agricultural land. During the second half of 2012, it was reprofiled and converted into active agricultural land (Figure 4). Remnants of wetland- or marsh-associated plant species such as *Impatiens chinensis, Floscopa scandens, Ludwigia adscendens* and *Polygonum glabrum* are present in the marshy area surrounding the existing agricultural land. The vegetation coverage of this habitat is low and most of the plant species were recorded from the surrounding marshy area only. A total of 36 plant species were recorded with one species of conservation concern, the herb *Geissapis cristata*, identified.

One small piece of seasonally wet grassland is present at the southwest of the enclave. Although the grassland was dry during the survey, the presence of several patches of wetland-associated plants (such as *Polygonum* spp.) suggests that the area is able to retain sufficient water for their growth during the wet season. Dominant species within this habitat include wetland herbs (*Polygonum pubescens* and *Geissapis cristata*) and subshrubs (*Urena procumbens* and *Urena lobata*). Twenty-two plant species were recorded with one species of conservation concern, the herb *Geissapis cristata*.

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Several watercourses were discovered to run through the whole enclave, mainly under the canopy of the native secondary woodland. These watercourses are semi-natural (with a natural bottom covered with boulder, gravel and sand). Plant species such as *Acorus gramineus, Saurauia tristyla* and *Adina pilulifera* were commonly recorded along the bank. A total of 26 plant species were recorded with three species of conservation concern identified including the fern *Cibotium barometz*, the woody climber *Gnetum luofuense* and the shrub *Pavetta hongkongensis*.

The developed/village area includes access roads and a number village houses. Plant coverage and diversity were low in this habitat. Plant species such as the climbers *Ipomoea cairica, Ficus pumila* and *Bougainvillea spectabilis* were commonly recorded. Fifteen species were recorded with no species of conservation concern identified.

A small ruderal area (sparcely vegetated waste ground) is present behind the PSO village area. Species such as *Aporusa dioica, Pavetta hongkongensis* and *Maesa perlarius* were recorded. Fifteen plant species were recorded with one shrub species of conservation concern, *Pavetta hongkongensis*, identified.

3.1.2 Nam Shan Tung

Five habitats were identified within the NST study area, including native secondary woodland, *fung shui* woodland, developed/village area, natural watercourse and grassland. A habitat map is shown in **Figure 5**.

Native secondary woodland is the dominant habitat within this enclave, but the woodland in the lowland area is relatively young. It is believed that the lowland woodland evolved from abandoned farmland through natural succession. The remaining part of the woodland is located on the hillside and is relatively mature. The canopy of this habitat mainly consists of native tree species *Schefflera heptaphylla*, *Aporusa dioica*, *Cratoxylum cochinchinense* and *Cinnamomum parthenoxylon*. Dominant species in the understory include common shrubs (*Psychotria asiatica* and *Ardisia crenata*), ferns (*Blechnum orientale* and *Cyclosorus parasiticus*) and climbers (*Byttneria aspera*). A total of 60 flora species were identified. Two flora species of conservation concern were identified, comprising the fern *Cibotium barometz* and the climber *Gnetum luofuense*.

A *fung shui* woodland is present in the middle of the enclave and behind the village. It consists of a closed canopy of common *fung shui* woodland tree species such as *Aporusa dioica* and *Schefflera heptaphylla*, and other native trees such as *Mallotus paniculatus*, with a well-developed understory dominated by the fern *Blechnum orientale*, the climber *Dalbergia benthamii* and the shrub *Psychotria asiatica*. The presence of mature trees with an average DBH (Diameter at Breast Height) of 30-60cm and well-developed woody climbers indicates that the habitat represents old-growth woodland with limited human disturbance. This *fung shui* woodland supports moderate plant diversity (58 species) with two species of conservation concern identified, including the tree *Aquilaria sinensis* and the woody climber *Gnetum luofuense*.

Several watercourses were found running through the enclave, mainly under the canopy of the secondary woodland. These watercourses are largely natural (i.e. with a natural bottom). Plant species such as the riparian herb *Acorus gramineus* and the trees *Saurauia tristyla* and *Adina pilulifera* were commonly recorded along the watercourses. A total of 17 plant species were recorded with one species of conservation concern, the fern *Cibotium barometz*, identified.

The developed/village area is located in the middle of this enclave. Some abandoned village houses are overgrown with vegetation. Plant coverage and diversity are low in this habitat. Plant species such as the trees *Mallotus paniculatus* and *Ficus hispida* and exotic climber *Bougainvillea*

page 6

spectabilis were commonly recorded. Eighteen species were recorded with no species of conservation concern.

3.1.3 Pak Tam Au

Twelve habitats were identified within the PTA study area, including native secondary woodland, *fung shui* woodland, plantation, grassland, seasonally wet grassland, marsh, natural watercourse, channelized watercourse, pond, shrubby grassland, waste ground and developed/village area. A habitat map is shown in **Figure 6**.

The area surrounding the enclave comprises predominantly young secondary woodland. The mixed canopy consists mainly of *Alangium chinense*, *Bischofia javanica*, *Cleistocalyx operculatus*, *Machilus chekiangensis*, *Mallotus paniculatus* and *Viburnum odoratissimum*. The woodland supports moderate to high plant diversity, with a total of 103 flora species identified. Two species of conservation concern were identified, including the tree *Aquilaria sinensis* and the shrub *Pavetta hongkongensis*.

Fung shui woodland is located to the north and behind the village. The overstorey is dominated by a closed canopy of common *fung shui* woodland tree species such as *Aporusa dioica, Alangium chinense* and *Schefflera heptaphylla*. The understorey is well-developed and dominated by the shrubs *Ardisia crenata, Uvaria macrophylla* and *Psychotria asiatica*. The presence of mature trees with an average height of 12-16 m indicates that the habitat consists of old-growth woodland. The *fung shui* woodland supports moderate plant diversity (60 floral species identified) with one species of conservation concern, the tree *Aquilaria sinensis*, present.

Two patches of plantation are present in the middle of the enclave. They comprise mainly exotic plantation tree species such as *Acacia confusa*, together with common native but planted tree species (i.e., *Ficus microcarpa*). The understory consists of common shrubs (such as *Melastoma malabathricum*, *Urena lobata* and *Rhodomyrtus tomentosa*). A total of 44 floral species were recorded with one species of conservation concern, the tree *Aquilaria sinensis*, identified.

Grassland is present in the middle of the enclave, and this area is maintained by feral cattle. Dominant species include herbs (*Ischaemum barbatum, Axonopus compressus* and *Chrysopogon aciculatus*) and shrubs (*Melastoma malabathricum*). The grassland supports moderate plant diversity (80 plant species), with one species of conservation concern, the herb *Geissapis cristata*, identified.

One small area of seasonally wet grassland was identified at the edge of the grassland habitat (on the northeastern side). Although the area was dry during the survey period, the presence of several patches of wetland-associated plants such as *Philydrum lanuginosum* suggested that water accumulates during the wet season. Dominant species within this habitat include wetland herbs (*Philydrum lanuginosum, Paspalum scrobiculatum* var. *orbiculare* and *Pycreus polystachyus*). Eleven plant species were recorded with one species of conservation concern, the herb *Geissapis cristata*, identified.

Marsh is present at the edge of the grassland (also on the northeastern side), next to the seasonally wet grassland. It is maintained by feral cattle and appears wet enough for the establishment of some common wetland plant species, including *Paspalum orbiculare*, *Pycreus polystachyus* and *Eriocaulon* sp. The habitat supports limited plant diversity (21 flora species) with two species of conservation concern, the herb *Geissapis cristata* and the scarce and restricted orchid *Liparis ferruginea*. This orchid species is considered to be locally Endangered (Barretto *et al.* 2011).

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Watercourses that are predominantly natural are located in the south and east of the enclave; some sections of the streams are bounded by retaining walls, and there are weirs present along several sections. At the time of the habitat survey, water was fairly shallow covering rocky substrate and with some deep pools. The surrounding habitat type along the natural watercourses is secondary woodland. A total of 20 plant species were recorded with no species of conservation concern identified.

The natural sections of the watercourse system are connected by a concrete channel in the middle of the enclave. However, the channel still functions as a corridor between two natural stream sections.

Two ponds are present in the north and in the centre of the enclave. They are located under the canopy of the secondary woodland and are overgrown with wetland-associated plants such as the fern *Cyclosorus interruptus*, the grass *Leersia hexandra*, the herb *Commelina diffusa* and the floating herb *Eichhornia crassipes*. The ponds are linked with the watercourses.

Shrubby grassland is located in the south of the enclave. Dominant species include shrubs such as *Melastoma malabathricum, Rhodomyrtus tomentosa* and *Glochidion lanceolarium* and the fern *Dicranopteris pedata*. The shrubby grassland supports limited plant diversity (36 plant species were recorded).

An area of waste ground is present in the southwest of the enclave. Most of the area is still bare exposed ground. Fifteen plant species were recorded.

Plant coverage and diversity in the developed/village area are low. Plant species such as the herb *Ageratum conyzoides*, and planted trees *Psidium guajava* and *Ficus microcarpa* were recorded.

3.1.4 Ko Tong

Thirteen habitat types were identified within the KT study area, including native secondary woodland, *fung shui* woodland, marsh, developed/village area, seasonally wet grassland, dry agricultural land, natural watercourse, ruderal area, marine area, mangrove, backshore vegetation, shrubby grassland and pond habitat. A habitat map is shown in **Figure 7**.

The enclave area comprises mainly native secondary woodland. The woodland in the lowland area appears to represent succession from abandoned farmland, and is considered to be fairly young. The remaining woodland on the hillside is relatively mature. The canopy of this habitat consists mainly of native tree species such as *Alangium chinense, Mallotus paniculatus, Viburnum odoratissimum* and *Machilus chekiangensis*. Dominant species below the canopy include common shrubs and trees such as *Psychotria asiatica, Uvaria macrophylla* and *Daphniphyllum calycinum*. A total of 86 flora species were identified. Two species of conservation concern, the tree *Aquilaria sinensis* and the shrub *Pavetta hongkongensis*, were identified.

Two stands of *fung shui* woodland are located behind the villages at KT and KTHY. Vegetation compositions of these two *fung shui* woodlands are similar and mainly consist of common *fung shui* woodland tree species such as *Dimocarpus longan*, *Alangium chinense*, *Aporusa dioica* and *Schefflera heptaphylla*. Understorey vegetation is well-developed, and includes the climber *Byttneria aspera* and shrubs *Psychotria asiatica* and *Maesa perlarius*. The presence of mature trees with an average height of 12-15 m and woody climbers indicates that the woodland is old and has had limited human disturbance. Since it is not easy to access the *fung shui* woodlands because of the difficult site conditions, surveys were conducted using binoculars from a distance and thus plant species recorded were limited (46 and 18 flora species were identified within the KT *fung shui* woodland and KTHY *fung shui* woodland respectively). Three species of conservation concern

FBG Publication Series No.12

were identified including the woody climber Gnetum luofuense, the shrub Pavetta hongkongensis and the tree Aquilaria sinensis.

Several natural watercourses run through the enclave, and under the native secondary woodland canopy. Plant species such as the trees *Cleistocalyx nervosum*, *Viburnum odoratissimum*, *Hibiscus tiliaceus* and the invasive climber *Mikania micrantha* are common along the stream banks. A total of 16 plant species were recorded with no species of conservation concern identified.

An area of mangrove is present along the seashore at TT (to the northeast of the enclave). Dominant species include common mangrove species such as *Kandelia obovata, Excoecaria agallocha* and *Aegiceras corniculatum*. A total of 12 plant species were recorded with no species of conservation concern identified.

Backshore vegetation is present behind the mangrove, and forms a transition between the mangrove and the secondary woodland and/ or shrubland. Vegetation found in this area is a mix of mangrove, shrubs and secondary forest species dominated by woody plants with an average height of 2-3 m. Dominant species include the trees *Hibiscus tiliaceus* and *Viburnum odoratissimum*, and the shrubs *Paliurus ramosissimus* and *Pandanus tectorius*. A total of 23 plant species were recorded with no species of conservation concern identified.

One small and one large freshwater pond were identified in the enclave. The area adjacent to the small pond was fenced off and no survey could be carried out. The large pond is located within the secondary woodland. With regard to the existing topography and location of this large pond, it appears that the pond connects to and collects water from seasonal streams flowing from the adjacent hillside. Vegetation surrounding the pond was mainly composed of woody plants such as the shrubs *Rhodomyrtus tomentosa* and *Glochidion zeylanicum*, and the tree *Mallotus paniculatus*.

Two areas of freshwater marsh were identified. One marsh is directly connected with the large pond; another marsh is located in the south of the enclave and near the village area. It is believed that these marshes have been utilized and maintained by feral cattle, and are mainly dominated by wetland- or marsh-associated plant species including the grasses *Ischaemum barbatum, Ischaemum ciliare* and *Panicum dichotomiflorum*, and other herbs *Geissapis cristata* and *Philydrum lanuginosum*. This habitat supports moderate plant diversity (40 species) compared with other similar freshwater habitats in Hong Kong, and one species of conservation concern, the herb *Geissapis cristata*, was identified.

Three small areas of dry agricultural land were identified in the middle, south and east of the enclave respectively. Common fruit tree species such as *Citrus reticulata, Citrus maxima* and *Carica papaya* and crop species, *Ipomoea batatas*, were recorded.

One small area of seasonally wet grassland was identified in front of the KTHY village. Although the area was dry during the survey period, the presence of several patches of wetland-associated plants such as *Polygonium* spp. suggests the area would be inundated during the wet season. Dominant species in this habitat include wetland herbs (*Geissapis cristata, Polygonum pubescens* and *Philydrum lanuginosum*) and shrubs (*Melastoma malabathricum* and *Glochidion zeylanicum*). Nineteen plant species were recorded, with one species of conservation concern, *Geissapis cristata*, identified.

Two areas of shrubby grassland were identified in the enclave, probably developed through the natural succession of the abandoned farmland. Dominant species include the shrubs (*Lantana camara, Senna tora and Urena lobata*) and herbs (*Axonopus compressus and Mimosa pudica*).

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

The developed/village area in this enclave comprises roads, village houses, a barbecue site and an open storage area. In general, plant coverage is low in this habitat type except for the barbecue site in the north of the enclave. Plant species such as the grass *Axonopus compressus*, the weedy climber *Mikania micrantha* and the weedy shrub *Lantana camara* were commonly recorded. This habitat supports limited plant diversity with 34 species recorded. One species of conservation concern, the tree *Aquilaria sinensis*, was identified near the barbecue site.

Three small areas of ruderal habitat are located at TT (north of the enclave) and KT (south of the enclave). Species such as the grass *Axonopus compressus*, the sub-shrubby herb *Urena lobata*, and the shrubs/small trees *Ardisia quinquegona* and *Rhus hypoleuca* were common. Thirty-four plant species were recorded, with one species of conservation concern identified, the shrub *Pavetta hongkongensis*.

3.1.5 To Kwa Peng

Ten habitats were identified within the TKP study area, including native secondary woodland, *fung shui* woodland, developed/village area, waste ground, shrubby grassland, ruderal area, mangrove, backshore vegetation area, marine area and natural watercourse. A habitat map is shown in **Figure 8**.

Native secondary woodland is the dominant habitat type within this enclave. The woodland is mainly composed of a closed canopy of common native tree species such as *Aporusa dioica*, *Machilus chekiangensis*, *Schefflera heptaphylla* and *Sterculia lanceolata*. The understorey is well developed, dominated by the fern *Blechnum orientale*, the herb *Microstegium ciliatum* and the shrubs *Maesa perlarius* and *Sarcandra glabra*. A total of 57 flora species were identified, with two species of conservation concern, the fern *Cibotium barometz* and the shrub *Pavetta hongkongensis*.

A small *fung shui* woodland is present behind the village area. It is composed of a closed canopy of common *fung shui* woodland tree species such as *Aporusa dioica* and *Antidesma bunius*, and other native trees such as *Mallotus paniculatus*. Its understorey is dominated by shrubs *Lasianthus attenuatus*, *Sarcandra glabra* and *Psychotria asiatica*. The presence of mature trees with an average height of 12-16 m suggests that the habitat represents old woodland with limited human disturbance. The *fung shui* woodland supports moderate plant diversity (64 floral species), including three species of conservation concern, the tree *Aquilaria sinensis*, the shrub *Pavetta hongkongensis* and the woody climber *Gnetum luofuense*.

Two natural watercourses are present in the east and the west of the enclave, predominantly covered by the canopy of the secondary woodland. The watercourses have natural stream beds. Plant species such as the common grass *Ischaemum barbatum*, the shrub *Pandanus tectorius* and the tree *Hibiscus tiliaceus* are common along the streamside. A total of eight plant species were recorded with no species of conservation concern identified.

An area of undisturbed mangrove is present along the shore. Dominant plants include common mangrove species such as *Kandelia obovata, Excoecaria agallocha* and *Avicennia marina*. During the survey, a total of 15 plant species were recorded with no species of conservation concern identified; however, Kwok *et al.* (2005) recorded a seagrass *Halophila minor* at the TKP mudflat, adjacent to the mangrove area.

Backshore vegetation is present behind the mangrove in the landward direction, forming a transition zone between the mangrove and the secondary woodland/shrubland. This habitat comprises a mix of mangrove, shrubs and secondary forest species, mainly dominated by woody plants with an average height of 2-3 m. Dominant species include the tree *Hibiscus tiliaceus*, the tree palm

Phoenix loureiroi, and the shrubs *Pandanus tectorius* and *Paliurus ramosissimus*. A total of 12 plant species were recorded with no species of conservation concern identified.

The developed/village area is located in the middle of the enclave. Plant coverage and diversity are low in this habitat. Weedy plant species recorded include climbers *Ipomoea cairica, Mikania micrantha* and the exotic shrub *Solanum torvum*. Sixteen species were recorded with no species of conservation concern identified.

A small waste ground area was identified in the west, close to the enclave boundary. It appears to be the remains of a village area. Grasses (*Neyraudia reynaudiana* and *Microstegium ciliatum*) and weedy climbers (*Mikania micrantha* and *Pueraria lobata*) were recorded. A total of 25 plant species were recorded with no species of conservation concern identified.

A shrubby grassland area is located in front of the village area, in the middle of the enclave. Dominant species include shrubs (*Melastoma malabathricum*, *Lantana camara* and *Glochidion* zeylanicum), herbs (*Axonopus compressus* and *Praxelis clematidea*) and climbers (*Mikania micrantha*). This habitat supports low to moderate plant diversity (41 species) with two species of conservation concern identified, the shrub *Pavetta hongkongensis* and the tree *Zanthoxylum ailanthoides*.

A ruderal area is present within the shrubby grassland. Plant diversity is low with only 12 species recorded. No species of conservation concern was identified and all species recorded are common and widespread in Hong Kong.

3.1.6 Chek Keng

Eight habitats were identified within the CK study area, including native secondary woodland, developed/village area, natural watercourse, ruderal area, mangrove, backshore vegetation area, grassland and marine area. A habitat map is shown in **Figure 9**.

Native secondary woodland is the dominant habitat type. The secondary woodland in the low-lying areas appears to have developed from abandoned farmland through natural succession. The remaining woodland on the hillside is considered to be relatively mature, and is covered to a significant extent by climbers such as *Bauhinia glauca*. The canopy of this habitat mainly consists of the native tree species *Schefflera heptaphylla*, *Aporusa dioica*, *Alangium chinense* and *Glochidion zeylanicum*. The understorey is dominated by common shrubs and trees (*Psychotria asiatica*, *Ilex pubescens* and *Cratoxylum cochinchinense*). The woodland supports moderately high plant diversity with a total of 164 flora species identified. Five flora species of conservation concern were recorded including the fern *Cibotium barometz*, the woody climber *Gnetum luofuense*, the shrubs *Pavetta hongkongensis* and *Diospyros vaccinioides* and the tree *Aquilaria sinensis*.

Several watercourses run through the enclave and mostly within the native secondary woodland. The watercourses are largely natural with natural stream bed retained. Most of the hillside streams at the western end were dry and are expected to be seasonally wet only. The two large stream systems in the middle and in the east of the enclave are permanent. Plant species such as the trees *Cleistocalyx nervosum, Viburnum odoratissimum* and the woody vine *Gymnanthera oblonga* were common at the location. A total of 42 plant species were recorded, with one species of conservation concern identified, the shrub *Diospyros vaccinioides*.

The developed/village area includes village houses and a pier. Plant coverage is low and plant diversity is limited in this habitat type. Orchard trees *Psidium guajava* and *Dimocarpus longan* were recorded. Thirty-nine species were recorded with one species of conservation concern identified, the tree *Zanthoxylum ailanthoides*.

page 12

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

A small area of ruderal habitat is present in front of the village area. The area appears to be abandoned farmland invaded by the ruderal vegetation such as the weedy climbers *Mikania micrantha* and *Wedelia trilobata* and the shrub *Lantana camara*. Some woody plants such as the tree *Viburnum odoratissimum* and *Daphniphyllum calycinum* were also recorded. Most of this habitat has been encroached by climbers ten plant species were recorded with no species of conservation concern.

An area of undisturbed mangrove is present along the shore. Common mangrove species *Kandelia* obovata, Avicennia marina, Aegiceras corniculatum and Excoecaria agallocha are dominant. A total of eight plant species were recorded with no species of conservation concern identified.

Backshore vegetation is present behind the mangrove in the landward direction, and forms a transition zone between the mangrove and the secondary woodland. Dominant species include the shrub *Paliurus ramosissimus*, and the trees *Hibiscus tiliaceus* and *Cerbera manghas*, which are often regarded as mangrove-associates. A total of 16 plant species were recorded with no species of conservation concern identified.

Grassland is present in the middle of the enclave. This area is constantly maintained by feral cattle and disturbed by human activities (e.g., camping). Dominant species include the herbs (Axonopus compressus, Chrysopogon aciculatus and Elephantopus scaber) and the small tree (Paliurus ramosissimus). The grassland supports moderate plant diversity (60 plant species) with one species of conservation concern identified, the tree Zanthoxylum ailanthoides.

3.2 Plant Species of Conservation Concern

The tree *Aquilaria sinensis* was recorded within all study areas. Topping and cut wounds were observed on some mature specimens with an average DBH of around 20-40 cm. This species is subject to illegal damage and removal at an unsustainable level. Populations may also be affected by destruction of suitable habitats locally. The species is listed as Near Threatened (NT) in the China Red Data Book and is under State protection (Category II) in China (Hu *et al.* 2003). It is also classified as Globally Vulnerable in the IUCN Red List of Threatened Species (IUCN 2013). In Hong Kong, this species is provided legal protection (Cap. 586).

The fern *Cibotium barometz* was recorded at CK, NST, TKP and PSO. This species is listed as Vulnerable (VU) in the China Red Data Book and is under State protection (Category II) in China (Hu *et al.* 2003). This species is protected under Cap. 586 in Hong Kong, but is suffering from overexploitation for traditional medicine.

The shrub *Pavetta hongkongensis* was recorded in all study areas except NST. The height of the individuals recorded range from 0.3-2.5 m. *P. hongkongensis* is a common shrub species found in tall thickets and forest in Hong Kong (AFCD 2009). The wild population of this species is protected under Forestry Regulation (Cap. 96A) in Hong Kong.

The orchid *Liparis ferruginea* was recorded at the marsh in PSOHY and PTA only. This species is regarded as scarce and restricted, and is Endangered in Hong Kong (Barretto *et al.* 2011). This species is highly habitat-specific, and the suitable habitats (mainly boggy, lowland grassland) are at greater risk of loss or degradation than most other local habitat types (Barretto *et al.* 2011). This species is protected under Cap. 96A and Cap. 586 in Hong Kong.

A specimen of the orchid *Ludisia discolor* is present in the woodland at PSO. This species is regarded as infrequent but widespread in Hong Kong by Barretto *et al.* (2011), who note that most of the local subpopulations are now feared extinct. They assign it a Red Data status of EN in Hong Kong.

The shrub *Diospyros vaccinioides* was recorded only in CK. All individuals recorded were in seedling or sapling form, with a height of around 0.3-1.5 m. This species is classified as Globally Critically Endangered on the IUCN Red List of Threatened Species (IUCN 2013). According to the IUCN Red List, the wild population of *D. vaccinioides* has been heavily-exploited and collected as an ornamental species in Taiwan, leading to the complete absence of mature trees in the wild.

The herb *Geissapis cristata*, which was recorded in the KT, PTA and PSO study areas only, is a locally rare species according to Xing *et al.* (2000). According to AFCD (2008), it is restricted to several locations in Hong Kong including Deep Water Bay, Tai Mong Tsai, Sai Keng and Lantau Island.

The woody climber *Gnetum luofuense* was recorded in all study areas except PTA. This species is listed as Globally Near Threatened on the IUCN Red list due to threats caused by habitat loss.

The herb *Houttuynia cordata*, which was recorded at PSO only, is locally a very rare species according to Xing *et al.* (2000). According to AFCD (2007), it is restricted to several locations in Hong Kong, including Lam Tsuen and Sha Lo Tung.

The tree Zanthoxylum ailanthoides was recorded in TKP and CK. A locally rare species (Xing et al. 2000), according to AFCD (2008), it is restricted to several locations in Hong Kong such as Chek Keng and Tai Long Sai Wan.

3.3 Amphibians and Reptiles

Most amphibian and reptile (herpetofauna) species are highly mobile and many are habitatgeneralists. As the CP enclaves are close to each other and their habitats are linked by intervening secondary woodland, it is expected that the herpetofauna communities in these enclaves would be similar to each other. Surveys have, however, recorded more species of conservation concern in certain enclaves; this could be due to the relatively higher habitat diversity of those enclaves, or simply due to unequal survey effort.

Herpetofauna species recorded from the enclaves, based on the personal observations of KFBG staff during the last decade, are listed in the table below.

Table 2. Herpetofauna species recorded

Species Name & Common Name	Conservation Status*	Habitat Requirement	PSO	NST	РТА	КТ	ткр	СК
<i>Bufo melanostictus</i> Asian Common Toad	Nil	Generalist	+		+	+		
<i>Fejerarya limnocharis</i> Paddy Frog	Nil	Marsh, agricultural land	+					
Hoplobatrachus chinensis Chinese Bull Frog	1. Potential Regional Concern	Marsh, agricultural land, slow-flowing stream, pond	+					
Paa exilispinosa Lesser Spiny Frog	 Potential Global Concern Vulnerable 	Watercourse	+					
Rana chloronata Green Cascade Frog	Nil	Watercourse	+					
Rana guentheri Gunther's Frog	Nil	Marsh, slow-flowing stream, pond, agricultural land	+.		+	+		
<i>Rana latouchii</i> Brown Wood Frog	1. Local Concern	Woodland	+		-			

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Species Name & Common Name	Conservation Status*	Habitat Requirement	PSO	NST	РТА	КТ	ТКР	CK
Rana taipehensis Two-striped Grass Frog	1. Local Concern	Marsh, pond	+					
Polypedates megacephalus Brown Tree Frog	Nil	Marsh, agricultural land, pond	+	14. A	+	+		
Boiga multimaculata Large-spotted Cat Snake	Nil	Woodland, shrubland	+		+	+		
<i>Bungarus fasciatus</i> Banded Krait	 Regional Concern Endangered 	Generalist	+					-
Bungarus multicinctus Many-banded Krait	1. Potential Regional Concern 3. Vulnerable	Generalist	+		+	+		
Cyclophiops major Greater Green Snake	Nil	Woodland	+			+ .		+
Elaphe porphyracea Red Mountain Racer	 Local Concern Vulnerable 	Woodland	+			+		
Elaphe radiata Copperhead Racer	1. Potential Regional Concern 3. Endangered	Generalist	+		+	+		14
Enhydris plumbea Plumbeous Water Snake	Nil	Wetland	+					-
Lycodon subcictus Banded Wolf Snake	Nil	Woodland	+					
Naja atra Chinese Cobra	 Potential Regional Concern Vulnerable 	Generalist	+		+	+	+	
<i>Oligodon cinereus</i> Golden Kukri Snake	1. Local Concern	Woodland	+			+	-	
Oligodon formosanus Taiwan Kukri Snake	Nil	Generalist	+			+		
<i>Ophiophagus hannah</i> King Cobra	 Potential Regional Concern Vulnerable Critically Endangered 	Generalist	+			+		-
<i>Opisthotrophis balteatus</i> Banded Stream Snake	Nil	Watercourse	+			·+		
Opisthotropis andersonii Anderson's Stream Snake	Endemic to the region 1. Potential Global Concern 2. Near Threatened	Watercourse	+		s.			. 3
Pareas margaritophorus White-spotted Slug Snake	Nil	Woodland, shrubland	+		+	+		
Protobothrops nucrosquamatus Pointed-scaled Pit Viper	1. Local Concern	Woodland	+					
Psammodynastes pulverulentus Mock Viper	Nil	Woodland, shrubland, grassland	+			+		3
<i>Ptyas mucosus</i> Common Rat Snake	 Potential Regional Concern Endangered 	Generalist	+	c	+	+		
Python bivittatus Burmese Python	 Potential Regional Concern Vulnerable Critically Endangered 	Generalist	+		+	+	+	-

page 15

Publication Series No.12

page 14

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Publication Series No.12

Common Name	Conservation Status*	Habitat Requirement	PSO	NST	РТА	KT	ТКР	(
Ramphotyphlops braminus Common Blind Snake	Nil	Generalist	+			-		
Rhabdophis subminiatus Red-necked Keelback	Nil	Woodland, shrubland	+		+	+		
Sibynophis chinensis Chinese Mountain Snake	1. Local Concern	Woodland	+		u.			
Cryptelytrops (Trimeresurus) albolabris Bamboo Snake	Nil	Shrubland, grassland	+		+	+		
Xenocrophis piscator Checkered Keelback	Nil	Wetland	+					
Ateuchosaurus chinensis Chinese Forest Skink	Nil	Woodland	+		-			
<i>Calotes versicolor</i> Changeable Lizard	Nil	Lowland area, shrubland, agricultural land	+		+	+		
<i>Eumeces chinensis</i> Chinese Skink	Nil	Lowland area, shrubland, agricultural land	+ '		+			
Plestiodon tamdaoensis Vietnamese Five-lined Skink	Found in Hong Kong recently, highly restricted in distribution (Chan <i>et al.</i> 2009)	Woodland	+	2				
Gekko chinensis Chinese Gecko	Nil	Generalist	+		+			
Gekko gecko^ Tokay Gecko	 Regional Concern Endangered 	Woodland	+			2		
Hemidactylus bowringii Bowring's Gecko	Nil	Generalist	+					
<i>Mabuya longicaudata</i> Long-tailed Skink	Nil	Generalist			+			
<i>Scincella reevesii</i> Reeve's Smooth skink	Nil	Woodland	+					
<i>Sphenomorphus indicus</i> Indian Forest Skink	1. Local Concern	Woodland	+					
<i>Takydromus sexlineatus</i> Grass Lizard	Nil	Grassland, woodland	+					
Tropidophorus sinicus Chinese Waterside Skink	Nil	Stream	+			+		

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Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

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Species Name &

*1. Fellowes et al. (2002); 2. IUCN Red List (IUCN 2013); 3. China Red Data Book (AFCD 2013) ^Some scholars consider that the South China G. gecko should be renamed as G. reevesii (Rösler et al. 2011)

Herpetofauna diversity at PSO, PTA and KT is considered to be relatively high; the habitat mosaic in these enclaves probably contributes to the high diversity. The presence of marsh and seasonally wet grassland can greatly enhance habitat heterogeneity (i.e., breeding site for amphibians). We should also point out that the number of species discovered would also be reflected by survey effort which may not have been equal for all sites.

In addition, a reptile species of high conservation concern (not listed in Table 2) has been discovered in KT and PSO, and because the wild populations are under severe threat the identity has not been reported in this document. The species is Critically Endangered (IUCN 2013). Another

page 16

PSO NST PTA KT TKP CK

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Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

herpetofauna species considered to be Globally Endangered (IUCN 2013) has also been found in PSO. The two species can utilize streams, marshes, riparian areas and woodlands.

3.4 Fish

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All enclaves contain aquatic habitats (streams, ponds and marshes) that support aquatic fauna and several fish of conservation importance. The estuaries at KT, TKP and CK are also believed to be fish nurseries (see below).

3.4.1 Fish Species of Conservation Importance

The watercourses (both channelized and natural) and the two ponds at PTA provide habitats for Hong Kong Paradise Fish (*Macropodus hongkongensis*). This species was once considered endemic to Hong Kong, and it is considered to be a key species of conservation importance by AFCD (AFCD 2013) and of Global Conservation Concern by Fellowes *et al.* (2002). This species can also be found in the Hau Tong Kai stream at TT (the KT enclave).

Watercourses and associated marshes at PSO provide habitats for a rare fish *Pseudobagrus trilineatus*. This catfish species can only be found at two sites in Hong Kong and is considered to be a key species of conservation concern by AFCD (2013). KFBG staff observations confirm that this species is also present in watercourses at NST, which belong to the same stream network.

One Giant Marbled Eel (*Anguilla marmorata*) was discovered in the watercourse at PSO. This is a catadromous species which needs to migrate between the sea and the stream; in order to protect this species, the stream-ocean corridor should not be blocked (i.e., channelized at sections or culverted); stream flow and the stream bed should remain natural (e.g., stream flow should not be reduced); simply speaking, the whole stream should be preserved in order to protect this species. The conservation status of this species is as follows: conservation concern (AFCD 2011a), Endangered in the China Species Red List (AFCD 2011a), Class II State Key Protected Wildlife in China (AFCD 2011a) and Global Conservation Concern (Fellowes *et al.* 2002). The presence of this species at PSO indicates that the stream system in this enclave is still linked with the sea, and thus can provide habitats for diadromous species. This species will spend a considerable amout of its life in streams with natural bottoms (with large rocks, gravel and sand). We believe that several streams in other enclaves can also provide suitable habitats for this species as the streams are largely natural and connected to the sea (PTA: connected to Pak Tam Chung; NST: connected to PSO and eventually to Hoi Ha Wan; KT, TKP and CK streams: coastal); for instance, we have observed a Mittern Crab (also a diadromous species) at PTA.

A rare goby, *Stiphodon multisquamus*, was found in the two main watercourses at CK during the survey, and has also been observed in the main stream at KT (KFBG Staff Pers. Obs.). This is an amphidromous species with a complex life cycle: adults live and breed in freshwater streams; eggs hatch in freshwater streams and larvae drift passively to the sea; larvae grow in the marine environment and juveniles actively return to freshwater streams. Therefore, in order to protect this species, the stream-ocean corridor should not be blocked; stream flow and the stream bed should remain natural (e.g., stream flow should not be further reduced); simply speaking, the whole stream should be preserved. It is a species considered to be of Global Conservation Concern by Fellowes *et al.* (2002) and Nip (2010), and is considered to be of Global Conservation Concern by Fellowes *et al.* (2002), although Nip (2010) considers it to be of Global Conservation Concern by Fellowes *et al.* (2002), although Nip (2010) considers it to be of Regional Conservation Concern as this species is common in the Philippines (Watson and Chen 1998). The stream system at TKP should also be able to provide habitats for the aforementioned goby species.

3.4.2 Marine Fish Nursery

During the survey in the estuaries at CK, many juvenile fishes were observed (e.g., **Figure 10**). These estuaries and those at TKP and KT are believed to function as fish nursery habitats. Nip and Wong (2010) considered that mangrove mudflats in eastern Hong Kong provide nursery habitats for fishes; it is thus considered that the mangrove areas at KT, TKP and CK are likely to provide this function.

3.5 Crustaceans

AFCD has conducted a detailed Sesarmine Crab survey and identified that TT (Tai Tan, within the KT enclave) and TKP are important areas for Sesarmine Crabs (Kwok and Tan 2005); an endemic Sesarmine Crab, *Pseudosesarma patshuni*, was also found at TT and TKP during their survey. Kwok and Tang (2005) also considered that the riparian zone, stream, estuary, marsh, mangrove and backshore vegetated area are ecologically important to Sesarmine Crabs, and the diversity of Sesarmine Crabs can indicate the "intactness" of the mangrove ecosystem.

During the site visit conducted in June 2012 at CK, the riparian zones of the streams were found to contain many burrows of Sesarmine Crabs (Figure 11). Certain species were also recorded far from the shore, including one considered to be less commonly found in Hong Kong – *Chiromantes haematocheir* (Figure 12). According to Kwok and Tang (2005), only a healthy mangrove ecosystem can contain enough habitat heterogeneity for a diverse Sesarmine Crab community. The observations made during this site visit indicate that CK, like its adjacent areas (TT and TKP), also contains a diverse Sesarmine Crab community and this implies that the mangrove, and backshore vegetation).

A shrimp with restricted distribution, *Palaemon debilis*, which only appears in estuaries along the eastern coast of Hong Kong, was found at the mouths of both streams at CK. In China, this species has only been reported from Hainan Island (Li *et al.* 2007). Thus Hong Kong is the second site in China where this species is known to occur and is also the only known site currently where this species can be found on the Mainland. In view of its restricted distribution, we consider that *P. debilis* is of conservation concern. The species should also be present at KT and TKP (estuarine habitats).

A freshwater shrimp, *Macrobrachium meridionalis*, an amphidromous species, was also discovered in a stream at CK. This species is not common in Hong Kong and is of local conservation interest (KFBG Staff Pers. Obs.). This species should also be present in the watercourses at KT and TKP.

3.6 Birds

The subject enclaves are all located within the general locality of Long Harbour (Tai Tan Hoi), and the westernmost and easternmost enclaves, NST and CK respectively, are separated by only 4.2 km. Given the mobility of birds, similar habitats within these enclaves are likely to support similar avifauna communities. Consequently, descriptions of bird occurrence have been carried out by habitat, rather than by enclave. Although the relative abundances of species within given habitats in each enclave may differ, broadly speaking species composition would be very similar.

Appendix 2 lists species that have been recorded in Sai Kung West CP based on Carey *et al.* (2001), subsequent issues of the Hong Kong Bird Report, data collected for the Hong Kong Bird Watching Society Winter Atlas project and surveys undertaken for the present report. Where a species occurrence within the enclaves can reasonably be predicted based on adjacent records indicated in the above sources, this is also mentioned.

3.6.1 Secondary Woodland and Fung Shui Woodland

These closely-related habitats are dominant across all enclaves, constituting 61.47% to 84.55% of the area of each, and 75.78% across all six enclaves. They are also the richest in terms of the diversity of the avifauna, particularly in the months October to February, when local bird populations are joined by migrants and winter visitors from further north. The habitats support a substantial number of species categorized by Fellowes *et al.* 2002 as of Local Concern; in addition, the Brown Fish Owl, which is of Regional Concern, is dependent on undisturbed, natural watercourses with good water quality, which are closely associated with forested areas. A Brown Fish Owl has been recorded uttering a territorial call from a location in the PSO enclave, indicating breeding in the vicinity (survey team, pers. obs).

3.6.2 Shrubby Grassland

Although the shrubby grassland habitat supports a similar range of species as secondary woodland, overall diversity of species and abundance of individuals is lower, and certain forest specialists are absent.

3.6.3 Grassland

No grassland specialist species were recorded. It is suggested that the Eurasian Eagle Owl may utilize the grassland habitats adjacent to the enclaves; but it should be noted that this species has a fairly wide home range.

3.6.4 Dry Agricultural Land

In the studied enclaves, this habitat supports low species diversity.

3.6.5 Seasonally Wet Grassland

The seasonally wet (rather than permanently wet) nature of this habitat with its lack of microhabitat diversity leads it to support a low diversity of common and widespread species. In addition, only very small patches of this habitat are present (at PTA, KT, CK and PSO).

3.6.6 Marsh

Marsh habitat is present in three enclaves: PSO, PTA and KT. Small ardeids, White-breasted Waterhen and Eurasian Woodcock utilize these marshes; in addition, the Brown Fish Owl has been recorded foraging in the marsh at PSO.

3.6.7 Pond

Pond habitat is present only at PTA and KT. The area of this habitat is very small, and individual ponds are fragmented; both diversity and abundance of wetland-dependent bird species was low.

3.6.8 Natural Watercourse

Natural watercourse habitats are present in all enclaves, commonly flowing through forested areas. The Brown Fish Owl forages in undisturbed, unpolluted lowland streams and tidal creeks (Carey *et al.* 2001); many HK records refer to stream sections with slower water flow, especially at the interface of freshwater and marine environments. Such conditions can be found at CK and KT, and it may be that this species forages in these areas.

The natural watercourse running through NST and PSO is the Hoi Ha Stream, of which the section through PSO is designated as an Ecologically Important Stream (EIS) by AFCD. The lower reaches of this stream, where it meets the sea at Hoi Ha Wan, is known to be frequented by the Brown Fish Owl; thus, changes in water quality of the upper reaches may impact this species. However, the species has also been recorded foraging in marsh habitat in PSO and also the upper sections of Hoi Ha Stream (within NST, PSO and PSOHY) where the stream course is narrow but sufficiently broad to provide sheltered areas of less disturbed water.

B G Publication Series No.12

AFCD (2013) stated that the Brown Fish Owl is a scarce resident in Hong Kong, and has been recorded at TT (in the KT enclave). This species is considered to be of Regional Conservation Concern by Fellowes *et al.* (2002).

3.6.9 Mangrove and Seashore

The closely-linked habitats of sea and mangrove are present at CK, TKP and KT. The area of mangrove habitat at each, however, is very small. Ardeids (including larger species) forage in these areas, while smaller waterbirds such as Common Kingfisher and White-breasted Waterhen are present along the coastal strip.

3.6.10 Backshore Vegetation

This habitat is similar in structure to shrubland habitat, though it supports a less abundant and diverse bird community largely confined to species common and widespread in Hong Kong.

3.6.11 Ruderal Area, Developed/ Village Area and Waste Ground

These highly man-modified habitats support a very limited community of common and widespread bird species.

3.7 Mammals

According to Shek (2007), Chinese Porcupine (*Hystrix brachyura*), Masked Palm Civet (*Paguma larvata*) and Red Muntjac (*Muntiacus muntjak*) have been recorded in the Sai Kung CP; Shek (2006) includes a photograph of a roadkill Masked Palm Civet recorded at PSO. The porcupine is considered to be of Potential Global Concern and the civet and deer of Potential Regional Concern (Fellowes *et al.* 2002). A former resident of PSO has observed the Chinese Porcupine and Red Muntjac in the woodland at PSO (Christophe Barthelelmy pers. comm.). A detached quill of a Chinese Porcupine was found in the PTA enclave (Figure 13; KFBG Staff pers. obs.). Based on anecdotal reports, it appears that Chinese Porcupine is fairly common in the woodland areas of the Sai Kung Country Park.

Woodlands in the locality can be utilized by a wide range of mammal species. Indeed, the Chinese Pangolin (*Manis pentadactyla*) has also been recorded within and adjacent to these enclaves (AFCD Staff pers. comm.). The Chinese Pangolin is considered to be Globally Endangered (IUCN 2013); it is also rare and of conservation concern in Hong Kong (AFCD 2013). The Greater Short-nosed Fruit bat (*Cynopterus sphinx*) and the Himalayan Leaf-nosed bat (*Hipposideros armiger*) have a wide distribution in Hong Kong and both species have been recorded in Sai Kung. Fan palms adjacent to village areas provide roost sites for the fruit bat and the leaf-nosed bat has been found utilising old abandoned village buildings in enclaves. Although not recorded in the present survey both species are expected to be present in or adjacent to the enclaves under this study.

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

4. Habitats of High Conservation Importance

4.1 Watercourses and Riparian Zones

Watercourses and associated riparian zones within the enclaves are of high conservation importance, primarily because they support many species of conservation concern and the habitats are wellconnected with other nearby habitats (mainly secondary woodland). As indicated earlier, several fish species of conservation importance, endangered herpetofauna species and a scarce bird (Brown Fish Owl) depend on these habitats. In the KT, TKP and CK enclaves, riparian areas (including the watercourses) provide habitats for the Sesarmine Crab community; the stream estuaries also function as fish nurseries, and provide migratory paths for diadromous species.

4.2 Woodlands

Plant species of conservation concern flourish in the woodlands (both secondary and *fung shui*) of all six enclaves, and some species of global conservation concern were recorded, such as the Incense Tree (*Aquilaria sinensis*), *Gnetum luofuense* (a woody climber), *Diospyros vaccinioides* (a shrub) and the orchid *Ludisia discolor*. The woodlands provide suitable roosting habitats for the Brown Fish Owl, and are home to wild mammals and several herpetofauna species of high conservation importance. The woodlands at KT, TKP and CK also support a Sesarmine Crab community. In conclusion, we consider that the woodlands, with their intactness and their connectivity to the surrounding CP, are of high conservation importance.

4.3 Mangroves and Backshore Vegetation

Tam and Wong (2000) considered that the mangrove stands at TT (Tai Tan, within the KT enclave), CK and TKP are of conservation concern; TT and CK are considered to be "very important" and TKP to be "important". Our findings and also data from Kwok and Tang (2005) also reflect that these habitats (mangrove and backshore vegetation) are important and key to supporting the Sesarmine Crab community. The backshore vegetation areas are ecologically linked with mangroves and other important habitats nearby (i.e. streams, woodlands); they should not be considered as of low value or low concern as they are integral to other habitats and can function as an important buffer (e.g., for the mangrove), and indeed these areas are also habitats for many important species (i.e., the Sesarmine Crabs); backshore vegetation adjacent to streams provides suitable hunting and roosting perches for Brown Fish Owls and habitat for herpetofauna of conservation importance. We thus conclude that the two habitats described here should be considered of high conservation importance, and should be protected.

4.4 Marshes and Seasonally Wet Grasslands at PSO and PTA

A locally endangered orchid species was present in the marshes at PSOHY and PTA. This species also has legal protection in Hong Kong. The marshes at PSO (those adjacent to the watercourse) are known to support the rare catfish (*Pseudobagrus trilineatus*), which can only be found in the PSO area (including NST) and at one other site in Hong Kong. Since the seasonally wet grassland can provide suitable habitat for the endangered orchid (it requires boggy, lowland grassland), we consider that both the marsh areas and seasonally wet grasslands in the PSO (including PSOHY) and PTA enclaves should be protected.

4.5 Ponds at PTA

The two ponds at PTA contain the Hong Kong Paradise Fish, which is a key fish species of conservation concern in Hong Kong (AFCD 2013). Besides protecting these ponds, we recommend that the areas surrounding (as buffer) and watercourses connected with these ponds should also be protected.

4.6 Riparian Grasslands at CK

Riparian grassland at CK forms an integral part of the Sesarmine Crab habitat (Figure 11). In order to protect the crab species, these grasslands should not be disturbed.

4.7 Pond and Associated Marsh at KT

The large fresh water pond at KT (in the south of the enclave) is not a common landscape in Hong Kong – it appears to be a natural pond. The pond and its associated marsh should be protected.

4.8 Existing Agricultural Land at PSO

The large area of agricultural land at PSO should be protected. Although it may have a lower ecological value than the original marsh, it still provides suitable habitat for wildlife. If it is paved, it will no longer be able to provide habitats for any fauna of conservation concern at the site, and the enclave will also suffer from the fragmentation effect; thus the ecological value of the land and also the whole enclave would be adversely affected.

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

5. Recommendation

The information in this report highlights the uniqueness of the habitats within the six reported enclaves, and the necessity to protect them from significant adverse impacts. In May 2011, the Convention on Biological Diversity (CBD) was extended to Hong Kong by the Central People's Government, and the Hong Kong Government has commenced a dialogue with Environmental NGOs, experts and Local Concern Groups regarding a strategy for the implementation of the CBD and the development of a local Biodiversity Strategy and Action Plan. With strategic guidance from the Convention, the Authorities have added pressure to safeguard the territories rich natural heritage and ensure that the mosaic of inter-related habitats and vegetated corridors are maintained. Not only the Country Parks require continued protection and high vigilance, but many lowland and coastal areas are integral parts of our rich ecosystems and should not be fragmented, encroached or destroyed.

We hope that the recommendations below will guide future decision making regarding the environment within the Sai Kung Enclaves:

1. The above areas and habitats of high conservation importance should be covered by an appropriate land zoning category that provides relevant protection such as the Conservation Area (CA) zone under the planning system. No development incompatible with surrounding areas or the natural heritage of the sites should be authorized.

From ecological and nature conservation perspectives, due to the strong ecological and functional linkages the enclaves are very much part of the Country Park system, and thus the Government should consider incorporating the enclaves, or areas of high conservation importance within enclaves into the Sai Kung Country Park.

- 2. The enclaves and the Sai Kung peninsular are frequented by many hikers, nature lovers and citizens wishing to escape from urban areas. Any further development within the enclaves will add pressure to the ecosystem of the Sai Kung area (e.g., potential pollution impact on nearby water bodies) and also to the road system (e.g., increased road traffic causing disturbance and fragmentation impacts on fauna). The authorities should maintain a broad and holistic view regarding any planning or changes within these enclaves.
- 3. Appropriate and enforceable planning control should be prioritized for all enclaves, and there should be a willingness to enforce existing conservation acts under the local conservation protection legislation wherever they are being contravened.

F B G Publication Series No.12

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K F B G Publication Series No.12

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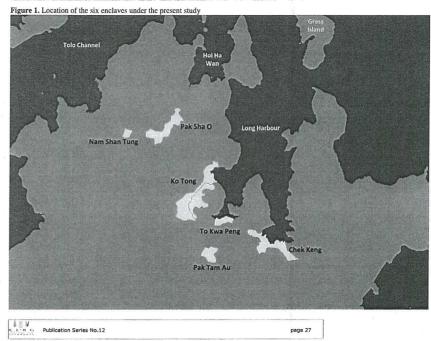
page 24

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

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Figures

Figure 3. A natural freshwater marsh at Pak Sha O

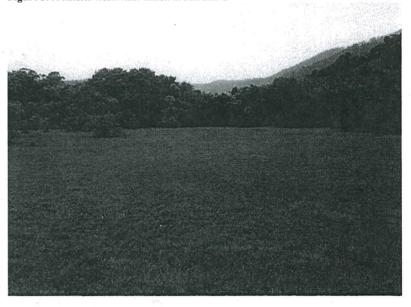
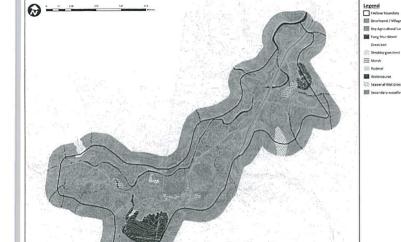


Figure 4. The natural freshwater marsh was re-profiled into an active agricultural land during the second half of 2012





Seasonal Wet Grassland Secondary woodland

page 28

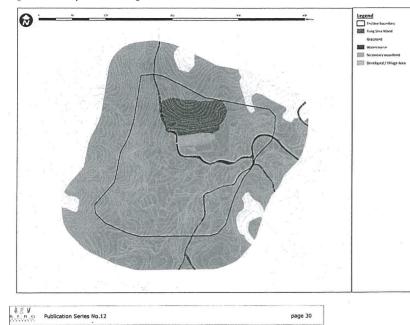
cological and Conservation Importance of Six Sai Kung Country Park Enclaves

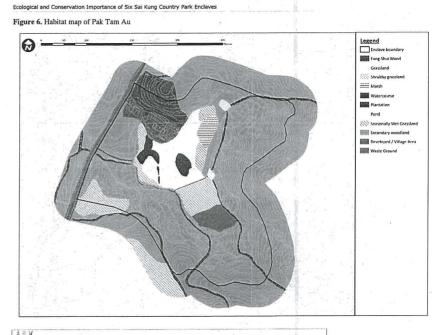
rigure 2. Habitat map of Pak Sha O and Pak Sha O Ha Yeung

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Figure 5. Habitat map of Nam Shan Tung





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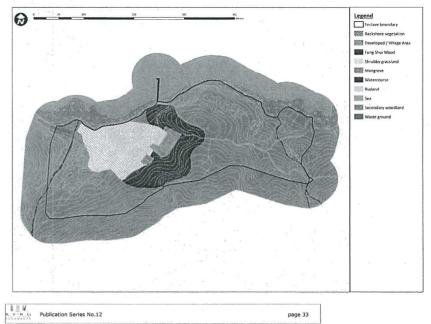
igure 7. Habitat map of Ko Tong

cological and Conservation Importance of Six Sai Kung Country Park Enclaves

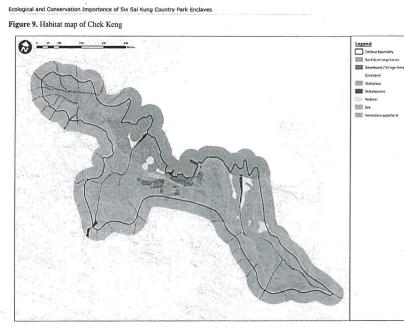
Legend Enclave boundary Backshore vegetation Developed / Village Area Dry agricultural land Fung Shui Wood Shrubby grassland Manerove Marsh Ruderal Watercourse Pond Sea Seasonally Wet Grassland Secondary woodland

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Figure 8. Habitat map of To Kwa Peng

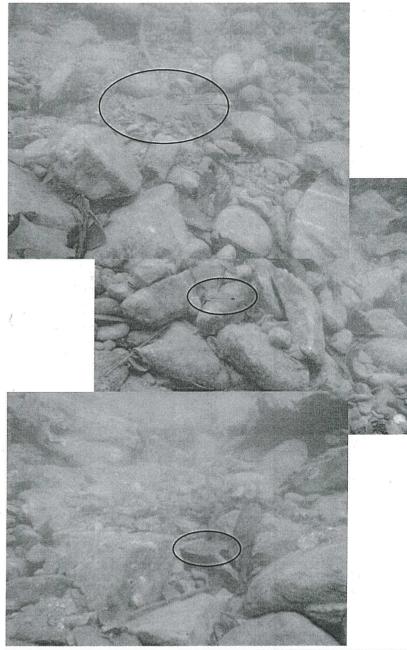


Publication Series No.12



431			
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Figure 10. Juvenile fishes observed in the estuaries at Chek Keng



R F B G Publication Series No.12

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves



Figure 12. Chiromantes haematocheir - an uncommon Sesarmine Crab species in Hong Kong recorded far from the shore of Chek Keng





Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

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Appendices

Appendix 1. Flora Species Recorded within Each Enclave

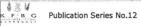


Table A1-1. Flora species recorded within Chek Keng enclave

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation ⁴	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Abutilon indicum	磨熊草	Subshrub	Restricted							
Acacia confusa	台灣相思	Tree	Exotic. Common, often planted in plantation		*	*				
Adiantum flabellulatum	扇葉鐵線蕨	Herb	Very common							
Adiantum malesianum	南洋鐵線蕨	Herb	Common							
Adina pilulifera	水關花	Tree	Very common			**				
Adinandra millettii	黄瑞木	Tree	Common							
Aegiceras corniculatum	個花樹	Shrub	Common	**						**
Alangium chinense	八角楓	Tree	Common			**				1
Alocasia macrorrhizos	海芋	Herb	Very common			*				
Alyxia sinensis	念珠廳	Woody climber	Common			*	÷			
Amaranthus viridis	野荒	Herb	Very common						*	
Anisomeles indica	廣防風	Herb	Common		*				*	
Antidesma bunius	五月茶.五味 子	Tree	Common		-	**				
Aporusa dioica	銀柴	Tree	Very common			***				
Aquilaria sinensis	土沉香	Tree	Common. Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Hu et al. 2003), classified as Critically Endangered (CR) on the IUCN Red List			•				
Archidendron clypearia	猴耳環	Tree	Common ·							

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in 11K^	Backshore Vegetation"	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Archidendron lucidum	亮紫猴叮谓	Tree	Common					-		
Ardisia crenata	大羅傘	Shrub	Common			**				
Ardisia lindleyana	山伽丹	Shrub	Common			*				
Ardisia quinquegona	維奪	Small tree	Very common							
Atalantia buxifolia	酒創物	Shrub	Common		*	*	*			
Avicennia marina	白骨壤	Tree	Common	+						**
Axonopus compressus	地毯草	Herb	Exotic, Common		**			*	*	
Bambusa sp.	竹腦	Bamboo	Common			9				
Bauhinia glauca	粉葉羊蹄甲, 羊蹄甲酶	Woody climber	Very common			***				
Berchemia floribunda	勾兒茶	Climbing shrub	Common			*				
Bidens alba	白花鬼針草	Herb	Exotic. Very common			*				
Blechnum orientale	扇毛蕨	Herb	Very common			*	*			
Bombax ceiba	木棉	Tree	Exotic, Exotic, common for roadside planting						*	
Bougainvillea spectabilis	簕杜崩	Climbing shrub	Exotic, Common	Å.					*	
Breynia fruticosa	黑面神	Shrub	Very common		*	*				
Bridelia tomentosa	土蜜樹	Tree	Very common		*	*				
Brucea javanica	鸦膽子, 苦参 子	Shrub or tree	Common							
Caesalpinia crista	假老虎筋	Woody climber	Very common			*				
Caesalpinia vernalis	春雲實	Woody climber	streamside, lowland, common		**					

♦ # 4 Publication Series No.12 page 41

Publication Series No.12

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation*	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Callicarpa kochiana	机把葉紫珠	Shrub	Common		*	*	1.	,		
Canavalia lineata	狭刀豆.	Climber	Common			*				
Carallia brachiata	竹節樹	Tree	Common			*				
Carica papaya	亚木瓜	Tree	Exotic, Cultivated for food						*	
Cassytha filiformis	無根廢	Parasitic climber	Very common	1		*				
Casuarina equisetifolia	木麻黄	Tree	Exotic. Often planted in plantation and along roadside, apparently semi-naturalized in the nature			*				
Celtis sinensis	朴樹	Tree	Common			*				
Centella asiatica	前大碗	Herb	Very common			*				
Centotheca lappacea	假淡竹葉	Herb	Common			*				
Cerbera manghas	海芒果	Tree	Common	***	*	**	**			
Cheilosoria tenuifolia	薄紫碎米蕨	Herb	Common			*	*			
Chloris barbata	孟仁草	Herb	Very common		*					
Chrysopogon aciculatus	竹節草, 假雀 麥	Herh	Very common		***					
Cinnamomum parthenoxylon	黃樟	Tree	Common			**				
Citrus maxima	枷	Tree	Exotic, Cultivated for food					*		
Citrus reticulata	佶	Small tree	Common						*	
Clausena lansium	黄皮	Tree	Exotic, Commonly planted for fruit						*	
Cleistocalyx nervosum	水翁	Tree	Common				***			
Clerodendranthus spicatus	賢茶, 猫鼠草	Herb	Exotic, Common						*	

Publication Series No.12

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation*	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Clerodendrum inerme	苦郎樹, 假菜 莉	Shrub	Common		*					
Cocculus orbiculatus	木防己	Climber	Common			*				
Cratoxylum cochinchinense	黄牛木	Tree	Very common			**				
Crinum asiaticum var. sinicum	文殊蘭	Herb	Restricted		* .	*				
Cuscuta chinensis	菟絲子	Parasitic herbaceous climber	Common			*				
Cyclea hypoglauca	粉葉輪環藤	Climber	Common			۰.				
Cyclosorus interruptus	間斷毛敵	Herb	Common			**				
Cyclosorus parasiticus	華南毛蕨	Herb	Very common			*				
Cynodon dactylon	狗牙根	Herb	Very common		*				*	
Cyrtococcum patens	弓果黍	Herb	Very common		**	*				
Dalbergia benthamii	兩廣黃擯	Woody climber	Common			**				
Dalbergia millettii	香港黄檳	Woody climber	Common			*				
Daphniphyllum calycinum	牛耳楓	Tree	Common		*			•		
Daphniphyllum oldhamii	交讓木	Tree	Common							
Dendrotrophe varians	寄生藤	Parasitic	Very common			*				
Desmodium triflorum	三點金	Herb	Very common	-	*	-				

5 4

Publication Series No.12 page 43

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in 11K^	Backshore Vegetation*	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Desmos chinensis	假鷹爪	Woody climber	Common			**	*			
Dicranopteris vedata	芒斑	Herb	Very common			**				
Dimocarpus longan	龍眼,桂圓	Tree	Exotic, Restricted			*			*	
Diospyros norrisiana	羅浮柿	Tree	Very common		_					
Diospyros accinioides	小果師	Shrub	Very common, regarded as "Critically Endangered" accordign to IUCN Red List			**				
Diploclisia laucescens	蒼白秤鈎風, 防己	Woody climber	Common			*	*			
Diplospora dubia	狗對柴	Shrub or tree	Common			*				
laeagnus loureirii	<u>離柏紫藤</u> ,羅 氏胡顏子	Woody climber	Common							
laeocarpus hinensis	中華杜英,野 杜英	Tree	Common						2	
lephantopus caber	地膽草	Herb	Common		**	*	*			
mbelia lacta	截船子	Woody climber	Very common			*				
mbelia vestita	密茵酸藤子	Woody climber	Common			*				
milia sonchifolia	一點紅	Herb	Very common		*				*	
urya nitida	细菌葉怜	Shrub	Very common	1		1				
xcoccaria gallocha	海涞	Tree	Common	**						**
icus hirta	相葉榕	Shrub	Common			*				
icus hispida	對葉榕	Tree	Very common			*	*			
icus microcarpa	細葉楷	Tree	Common							

Publication Series No.12

page 44

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in 11K^	Backshore Vegetation"	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Ficus pumila	.0425	Climber	Very common			*				
Ficus tinctoria subsp. Gibbosa	斜葉梢	Tree	Restricted							
Ficus variegata var. chlorocarpa	青果棺	Tree	Common			* 1			*	
Ficus variolosa	變葉楷	Shrub or tree	Very common							
Fimbristylis sp.	顯拂草腦	Herb	Restricted		*					
Gahnia tristis	瓜莎草	Herb	Very common			**				
Garcinia ohlongifolia	黄牙果	Tree	Very common			8	~			
Glochidion eriocarpum	毛果算髓子	Tree	Very common				*			
Glochidion lanceolarium	艾膠算盤子.大 菲算盤子	Shrub	Common							
Glochidion zeylanicum	普港算量了	Shrub	Common			***				
Gnetum luofuense	羅浮買麻蔭	Clmber	Very common, regarded as "Near Threatened" accordign to IUCN Red List							
Gnetum parvifolium	小葉買麻廳	Clmber	Very common			*				
Gymnanthera oblonga	海島藤	Slender woody climber	Regarded as Very Rare in Xing et al. (2000), common in serveral districs in HK including Sai Kung, Tsing Yi, Yeun Long and Lantau Island (AFCD 2009)	**			***			**
Hedyotis acutangula	方骨草	Herb	Very common			*				
Heritiera littoralis	銀葉樹	Tree	Restricted	**						**
Heterosmilax japonica	尚菝葜	Climber	Common			*		1		
Hibiscus tiliaceus	黄槿	Tree	Common	***	*		**			*

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation [#]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Homalium cochinchinense	犬科木	Shrub or tree	Common			**				
llex asprella	梅葉冬青	Shrub	Very common		+ .					
llex pubescens	毛冬背	Shrub	Very common			***				
Ipomoca cairica	五爪金融	Herbaceous climber	Exotic, Very common			*				
Isachne globosa	柳葉笠	Herb	Very common						*	
Ixora chinensis	龍船花	Shrub	Restricted						*	
Kalanchoe pinnata	落地生根	Herb	Exotic, Common			*			*	
Kandelia obovata	水筆仔	Tree	Very common	**						****
Lantana camara	馬纓丹	Shrub	Exotic, Very common	**	*	*	*	*	*	
Lenimaphyllum microphyllum	伏石蕨	Herb	Common							
Ligustrum sinense	山指甲	Shrub or small tree	Common				*			
Limonium sinense	補加草	Herb	Common	*	*					
Lindernia crustacea	母草	Herb	Restricted		*					
Lindsaca orbiculata	團葉鳞始厥	Herb	Very common			*				
Liriope spicata	山麥冬, 麥門 冬	Herb	Very common			*				
Litchi chinensis	荔枝	Tree	Exotic. Restricted				~			
Litsea cubeba	木薑子	Tree	Common			*				
Litsea glutinosa	漏稿樹	Tree	Very common			*	*			
Litsea rotundifolia vat. oblongifolia	豺皮樟	Tree	Very common			*				

특별/ Sylfeng Publication Series No.12 page 46 Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in 11K^	Backshore Vegetation [*]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Lophatherum gracile	淡竹葉	Herb	Very common			*				
Lygodium flexuosum	山轴海金沙	Climber	Very common				*			
Lygodium japonicum	海金沙	Climber	Very common	*		*	*	*		
Lygodium scandens	小葉海金沙	Climber	Common							
Macaranga tanarius vat. tomentosa	血桐	Tree	Common			*			*	
Machilus chekiangensis	浙江润楠	Tree	Very common			**				
Machilus velutina	绒毛潤楠	Tree	Common			**				
Maesa perlarius	頻魚腺	Shrub	Common			*			*	
Mallotus paniculatus	白楸	Tree	Very common			**				
Melastoma malabathricum	野牡丹	Shrub	Common	-	*	*				
Melastoma sanguineum	毛葱	Shrub	Common			*				
Melicope pteleifolia	三椏苦	Tree	Common			*				
Melodinus suaveolens	山橙	Woody climber	Common			*				
Mikania micrantha	薇甘菊	Herbaceous climber	Exotic, Very common					****	*	
Millettia nitida	亮紫雞血藤	Woody climber	Very common			*	. 16 6			
Miscanthus floridulus	五節芒	Herb	Common			*				
Mussaenda pubescens	玉葉金花	Climbing shrub	Very common							

Publication Series No.12

cientific Name	Chinese Common Name	Growth Form	Status and Distribution in 11K^	Backshore Vegetation*	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
xalis corniculata	酢漿草	Herb	Very common							
acderia scandens	難矢藤	Climber	Very common	1	*	*				
alhinhaea cernua	創地蜈蚣,燈籠 茸	Creeping herb	Very common			* '				
aliurus unosissimus	瓜甲子	Tree	Common	****	**	**	**			*
andanus ustrosinensis	爾兜亞	Herb	Common							
andanus tectorius	露兜樹	Small tree	Very common		**					
anicum revifolium	短熊罪	Herb	Very common						*	
aspalum mjugatum	网开幕	Herb	Exotic, Common		**					
aspalum distichum	雙德術種	Herb	Common		+					
avetta mgkongensis	普港大沙寨	Shrub or small tree	Common. Protected under Cap. 96A			**				
erilla frutescens	紫蘇	Herb	Restricted		*					
hoenix loureiroi	刺药	Shrub or small tree	Common		*					
hyllanthus schinchinensis	越南茲下珠	Shrub	Very common							
hyllanthus emblica	餘甘子,油甘 子	Tree	Very common							
hyllodium dchellum	排錢草	Shrub	Very common				*			
per cathayanum	清药	Climber	Restricted			*				
Inchea indica	因荷菊・煙商	Shrub	Common		*					

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in 11K^	Backshore Vegetation*	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Praxelis clematidea	假與草	Herb	Exotic. Very common		*			-		-
Psidium guajava	番石榴	Tree	Exotic, Common			*			*	
Psychotria asiatica	九節	Shrub	Very common		*	***	**			
Pteris semipinnata	半邊族	Herb	Very common							
Pteris vittata	蜈蚣草	Herb	Very common			*				
Pueraria lobata	野葛	Climber	Very common			*	*			
Pycreus polystachyus	多穗扇莎	Herb	Very common	-				£.		
Rhaphiolepis indica	車輪梅	Shrub or small tree	Very common			*			1	
Rhapis excelsa	條竹	Shrub	Common			**				
Rhodomyrtus	桃金娘	Shrub	Very common			**				
Rhus chinensis	赠店木	Tree	Common				*			
Rhus hypoleuca	白背黧鹰木	Tree	Common	**	*	**				
Rhus succedanea	野漆樹	Tree	Common			*				
Rosa laevigata	金樱子	Climbing shrub	Common			*				
Rourea microphylla	小葉紅葉藤, 紅葉藤	Woody climber	Common			*	•			
Rubus reflexus	蛇泡簕	Climbing shrub	Very common			*				
Ruellia coerulea	國花草	Herb	Exotic, Common						*	
Sageretia thea	笛梅藤	Shrub	Common ,	**		*				
Sapium discolor	山島柏	Tree	Very common			*				
Sapium sebiferum	烏桕	Tree	Common		9	*			-	
Sarcandra glahra	章珊瑚	Subshrub .	Common			*				

R B G Publication Series No.12

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in 11K^	Backshore Vegetation*	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Schefflera heptaphylla	鹊翩木	Tree	Very common			***	*			
Schizostachyum dumetorum	苗竹仔	Bamboo	Very common				**			
Scolopia chinensis	刺柊	Tree	Common			**	*			
Scolopia saeva	廣東刺柊	Tree	Common			*				
Scoparia dulcis	野甘草,冰糖草	Herb	Common			*				
Selaginella doederleinii	深錄卷柏	Herb	Common			*				
Selaginella uncinata	翠雲草	Herb	Common							
Senna occidentalis	望江南・野扁 豆	Shrub	Very common							
Smilax china	金剛藤	Climbing shrub	Very common			*				
Smilax glabra	十.茯苓、光葉菝 契	Climbing shrub	Very common							
Smilax lanceifolia var. opaca	暗色菝葜	Climbing shrub	Common							
Solanum capsicoides	牛茄子、缬茄	Herb	Exotic, Regarded as Rare in Xing et al. (2000), widely established in HK in recent years						*	
Spermacoce stricta	豐花草	Herb	Restricted						*	
Stachytarpheta jamaicensis	假馬鞭	l lerb	Exotic, Common		*					
Stephania longa	T·金縣	Climber	Common		*			*	*	
Sterculia lanceolata	假蘋婆	Tree	Very common			*		4		
Strophanthus divaricatus	羊角拗	Woody climber	Common		*	*	*			

Publication Series No.12

page 50

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in IIK^	Backshore Vegetation*	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Strychnos angustiflora	牛眼馬錢	Woody climber	Common			+				
Styrax suberifolius	桧葉安息香. 紅皮	Tree	Common		-	*	100			
Suaeda australis	南方驗薖	Herb	Common	٠						
Symplocos cochinchinensis var. laurina	黄牛奶樹	Tree	Common		**	*				
Symplocos crassifolia	厚葉山礬.厚葉 灰木	Tree	Common			*				
Symplocos lancifolia	光葉山礬	Tree	Common			*				
Syzygium buxifolium	赤摘	Shrub	Common			*				
Syzygium hancei	韓氏蒲桃、紅 鳞蒲桃	Tree	Common				*			
Syzygium jambos	蒲桃	Tree	Exotic, Common		*	*	*			
Syzygium levinei	山蒲桃	Tree	Common			**				
Tetracera asiatica	錫葉藤	Woody climber	Very common			*	*			
Toxocarpus wightianus	弓果縣	Slender woody climber	Very common			*	×			
Triumfetta rhomboidea	刺動麻	Subshrub	Common							
Tylophora ovata	娃兒廳	Slender woody climber	Common			*				
Urena lobata	尚梵天花	Subshrub	Common		*					
Urena procumbens	梵天花	Subshrub	Common		*	*		*		
Uvaria macrophylla	紫玉盤	Woody climber	Common			*				

K F n G Publication Series No.12 page 51

cientific Name	Chinese Common Name	Growth Form	Status and Distribution in IIK ^A	Backshore Vegetation"	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
ernonia cinerea	夜香牛	Herb	Very common		*			-		
iburnum loratissimum	珊瑚樹	Tree	Very common		*	*	***	*		
iola diffusa	藝花葉	Herb	Common	5			*			
itex rotundifolia	白貴蔓荊	Shrub	Exotic, Common	**	*					
'edelia trilobata	三裂葉輻膜菊	Herb	Exotic. Common					*	*	
'ikstroemia indica	丁哥王	Shrub	Common			**				
'ikstroemia nutans	細軸轄花	Shrub	Common			**				
pungia japonica	黄鹤菜	Herb	Very common			* .				
mthoxylum lanthoides	捧葉花椒	Tree	Regarded as Rare in Xing <i>et al.</i> (2000), restricted to several locations in HK such as Chek Keng and Tai Long Sai Wan according to AFCD 2008							
inthoxylum vicennae	筋瘙花椒	Tree	Common			*				
inthoxylum tidum	मब्रात्ता ३।	Climbing shrub	Very common							
inthoxylum andens	花椒筋	Climbing shrub	Common			*				
botium barometz	金毛狗	Herb	Very common, Protected under Cap, 586, listed as Vulnerable (VU) in the China Red Data Book and is under State protection (category II) in China (IIu <i>et</i> <i>al.</i> 2003)			*				
otal			226	16	60	164	42	10	39	8

^ latus follows Xing et al. (2000)
*(>de for Abundance: ****= Abundant, *** = Frequent, ** = Occasional, * = Scarce

Publication Series No.12

page 52

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Table A1-2. Flora species recorded within Ko Tong enclave

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK ^A	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Acacia confusa	台灣相思	Tree	Exotic. Common, often planted in plantation											E.		*
Adiantum flabellulatum	局亞鐵線蕨	Herb	Very common			*			-							
Adina pilulifera	木團花	Tree	Very common						1		*					
Aegiceras corniculatum	侗花樹	Shrub	Common	**				***								
Alangium chinense	八角楓	Tree	Common			**				***						*
Alocasia macrorrhizos	海芋	Herb	Very common			*					*		*			
Alpinia hainanensis	范豆蔻	Herb	Very common			*					**					
Alpinia stachyodes	密苞山薑	Herb	Common								*					
Ampelopsis cantoniensis	廣東蛇葡萄	Climber	Very common							*						
Anisomeles indica	廣防風	Herb	Common							*					*	
Annona squamoså	番荔枝	Tree	Common												*	
Antidesma bunius	五月茶,五味子	Tree	Common			*	*			**						*
Aporusa dioica	銀先	Tree	Very common	*		***				**			*		*	*
Aquilaria sinensis	上沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Ilu et al. 2003), classified as Critically Endangered (CR) on the IUCN Red List		0					**						*
Archidendron lucidum	亮葉猴耳環	Tree	Common							*						

Publication Series No.12 page 53

Ecological and	Conservation	Importance of	Six Sai Kung	Country	Park Enclaves
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Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in IIK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Archontophoenix alexandrae	假檳榔	Tree	Exotic. Commonly planted for greening													*
Ardisia crenata	大羅傘	Shrub	Common			*				*			٠			
Ardisia quinquegona	羅傘	Small tree	Very common			*				*			**	1.11		
Atalantia buxifolia	酒餅簕	Shrub	Common							*						
Avicennia marina	白骨環	Tree	Common					**								
Axonopus compressus	地毯草	Herb	Exotic. Common										***		***	****
Bauhinia glauca	粉號羊蹄甲,羊蹄 甲醛	Woody climber	Very common			**	*			**						
Berchemia floribunda	幻兒茶	Climbling shrub	Common							**		*				
Bischofia javanica	秋楓	Tree	Common							*						
Blechnum orientale	鳥毛蕨	Herb	Very common	-		**				*						
Breynia fruticosa	黑而神	Shrub	Very common							*						
Bridelia tomentosa	土蜜樹	Tree	Very common	2						*						
Brucea javanica	鴉膽子・苦参子	Shrub or tree	Common	*											**	
Bruguiera gymnorhiza	木欖	Tree	Restricted					**								
Byttneria aspera	刺果藤	Woody climber	Very common			***	***			***			+			
Callicarpa kochiana	枇杷葉紫珠	Shrub	Common													*
Cardiospermum halicacabum	创地鈐	Climber	Restricted												*	
Carica papaya	莆木瓜	Tree	Exotic. Cultivated for food		• 1											
Castanopsis fissa	飘朔錐	Tree	Common							*						*

		1784
page 54	Publication Series No.12	4 ∰ M Satating

54

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in IIK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Cerbera manghas	海芒果	Tree	Common	*				*								
Choerospondias axillaris	南酸棗	Tree	Common							*						
Cinnamomum camphora	嶛	Tree	Common		4		**									*
Cinnamomum parthenoxylon	荧樟	Tree	Common			**				**		¢.‡	* .			
Citrus maxima	柚	Тгее	Exotic. Cultivated for food		*											
Citrus reticulata	桔	Small tree	Common		**											
Citrus sinensis	椏	Tree	Cultivated for food		*											
Clausena lansium	黄皮	Tree	Exotic. Commonly planted for fruit		- 11		*									
Cleistocalyx nervosian	水翁	Tree	Common	**	2					*	**					
Clerodendrum inerme	苦郎樹, 假茉莉	Shrub	Common	*	3			*								
Cocculus orbiculatus	木防己	Climber	Common							*						
Colocasia esculenta	芋	l lerb	Cultivated		14				*							
Commelina diffusa	的的母	Herb	Common		Ę.				**							
Cratoxylum vochinchinense	黄牛木	Tree	Very common		g	**	*			**			*		*	*
Cyclosorus interruptus	間斷毛蕨	Herb	Common		8				**			*			1	
Cyclosorus parasiticus	苹南毛蕨	Herb	Very common		Ľ.	*				*						
Cyperus compressus	扁穗莎草	Herb	Very common		1				*							
Cyperus pilosus	毛軸莎草	l lerb	Common		2				*		*			*		
Cyrtococcum patens	弓果黍	Herb	Very common		i.				***			**				
Dalbergia benthamii	兩廣黃檀	Woody climber	Common		. p.	ŧ				**					1.5	

Publication Series No.12

ientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
phniphyllum ycinum	牛耳楓	Tree	Common							**						
lonix regia	鳳凰木,金鳳	Tree	Exotic. Common				*									×
smos chinensis	假鹰爪	Woody climber	Common			*			-	**						
ranopteris pedata	芒萁	Herb	Very common			*				*						
nocarpus longan	癮眼,挂圆	Tree	Exotic, Restricted			*	**			٠			*			
oscorea bulbifera -	黄菊	Climber	Common			*			1							
ieagnus loureirii	難拍紫藤, 羅氏胡 顏子	Woody climber	Common			*										
helia laeta	酸胨于	Woody climber	Very common							*						
belia vestita	密茵酸藤子	Woody climber	Common							*						
ocaulon truncatum	菲律賓穀精草	Herb	Common						*							
calyptus robusta	大葉桉,大葉有加 利	Tree	Exotic. Common. often planted in plantation													
voecaria agallocha	海漆	Tree	Common	*				***								
us hispida	對蕪榕	Tree	Very common								**					
us microcarpa	細葉楷	Tree	Common			•										*
us subpisocarpa	筆管榕	Tree	Common	*			*	*								
us variegata var. procarpa	背果檔	Tree	Common							*						
hristylis nutans	點頭觸拂草	Herb	Restricted						*							_
ıbristylis sieboldii	銹鱗闊拂草	Herb	Common						*							
scopa scandens	聚花草	Herb	Common						**			*		*		

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in IIK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong <i>Fung Shui</i> Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Fuirena umbellata	芙蘭草	Herb	Common						*							
Geissapis cristata	韓苞豆	Herb	Regarded as Rare in Xing et al. (2000), restricted to several locations including Deep Water Bay, Tai Mong Tsai, Sai Keng and Lantau Island according to AFCD 2008				8		**					****		
Glochidion eriocarpum	毛果算盘子	Tree	Very common							**					*	+
Glochidion zeylanicum	语港算量子	Shrub	Common						*	*		***	*	***	*	
Gnetum huofuense	羅浮買麻藤	Clmber	Very common, regarded as "Near Threatened" accordign to IUCN Red List			*	**									
Gymnanthera oblonga	海島區	Slender woody climber	Regarded as Very Rare in Xing et al. (2000), common in serveral districs in HK including Sai Kung, Tsing Yi, Yeun Long and Lantau Island (AFCD 2009)	**				*								
Hedychium coronarium	窗花	Herb	Exotic, Common		*											
Heterosmilax japonica	尚菝葜	Climber	Common							*						
Hibiscus tiliaceus	黄植	Tree	Common	***				**			**					
Hypericum japonicum	地耳草	Herb	Very common						*			*		•		
llex asprella	梅雅冬时	Shrub	Very common							*						
Impatiens chinensis	苹鳳仙	Herb	Common						**							
Ipomoea batatas	币薯	Herbaccous climber	Exotic. Cultivated	4	**											
Ipomoca triloba	三裂熊薯	Herbaceous	Exotic. Common				1.1		**							

K F n G Publication Series No.12

page 57

B Publication Series No.12

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in IIK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Area
Ischaemum barbatum	粗毛鸭嘴草	Herb	Very common						***			**				
Ischaemun ciliare	細毛鸭嘴草	Herb	Very common						***							
Kalanchoe pinnata	落地生根	Herb	Exotic. Common	*							-	-	-			*
Kandelia obovata	水筆行	Tree	Very common					\$** \$								
Kyllinga nemoralis	單德水蜈蚣	Herb	Very common	-					*						*	
Kyllinga polyphylla	语根水蜈蚣	Herb	Exotic. Common											*		
Lantana camara	馬纓丹	Shrub	Exotic. Very common	*	*					*	*		**		***	*
Ligustrum sinense	山指甲	Shrub or small tree	Common			*				*						
Lindernia crustacea	母茸	Herb	Restricted					4				-		*		
Lindernia oblonga	棱萼母草	1 lerb	Restricted						*							
Lindernia rotundifolia	迷你虎耳草	Herb	Restricted											*		
Lipocarpha chinensis	華湖瓜草	Herb	Restricted						*							
Liriope spicata	山婆冬, 裘門冬	Herb	Very common								*					
Litchi chinensis	荔枝	Tree	Exotic. Restricted			*	*									
Lithocarpus glaber	柯・石懐	Tree	Common							**						
Litsea rotundifolia var. oblongifolia	豺皮樟	Tree	Very common							*						
Lophatherum gracile	淡竹葉	Herb	Very common			*								5		
Lophostemon confertus	紅膠木	Tree	Exotic. Commonly planted							* .						4
Ludwigia hyssopifolia	草龍	Herb	Common											*		
Ludwigia octovalvis	毛華龍	Herb	Common						*							

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong <i>Fung Shui</i> Woodland	Ko Tong Ha Yeung <i>Fung Shui</i> Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Lygodium japonicum	海金沙	Climber	Very common		•	**				*	1	*			*	*
Lygodium scandens	小葉海金沙	Climber	Common						*	*		*				
Macaranga tanarius var. tomentosa	血桐	Tree	Common							*			*	- x		*
Machilus chekiangensis	浙江潤楠	Tree	Very common		1	**				***						*
Maesa perlarius	鯽魚膽	Shrub	Common		*	**			*	**					*	
Mallotus paniculatus	白楸	Tree	Very common		1		**			***	*	**				
Mangifera indica	杧果	Tree	Exotic. Commonly planted for fruit		24											
Melaleuca quinquenervia	白千層	Tree	Exotic. Commonly used for slope plantation													
Melastoma malabathricum	野牡丹	Shrub	Common	*	17				**	*		***		**	**	•
Melicope pteleifolia	三椏苦	Tree	Common							*						
Microcos nervosa	破布禁,布渣葉	Tree	Common	*	16	*				*						
Microstegium ciliatum	剛芳竹	Herb	Very common		28					**						
Mikania micrantha	微甘菊	Herbaceous climber	Exotic. Very common		**				***	**	***		•			*
Mimosa pudica	合蔬草	Herb	Exotic. Very common		μ.								*	* .	***	
Morus alba	桑	Tree	Common		1					*	1					
Murdannia nudiflora	裸花水竹葉	Herb	Common		1				*						r.,	
Musa x paradisiaca	大煎	Giant herb	Exotic. Commonly cultivated												*	
Mussaenda erosa	榆胶	Climbing shrub	Common		1					*						
Neyraudia reynaudiana	魚蔵	Herb	Common		12					*						

a ∰ W String G Publication Series No.12

ientific Name	Chinese Common Name	Growih Form	Status and Distribution in IIK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
xalis corniculata	酢腹草	Herb	Very common										*			
ilhinhaea cernua	辅地蚬蜙, 燈龍草	Creeping herb	Very common						•			*				
iliurus ramosissimus	馬甲千	Tree	Common	***				**								
ındanus austrosinensis	露兜草	Herb	Common								**					
indanus tectorius	露兜樹	Small tree	Very common	***				**								
micum dichotomiflorum	水生黍	Herb	Common						***			+				
nicum maximum	大乘	Herb	Exotic. Very common		**											
nicum repens	舖地乘/枯骨草	Herb	Very common						***			*		•		
spalum conjugatum	兩耳草	Herb	Exotic, Common											•		- 1.
spalum scrobiculatum r. orbiculare	圓果雀稗	Herb	Very common											**		
vetta hongkongensis	香港大沙葉	Shrub or small tree	Common, Protected under Cap. 96A			*	***			**						
ilydrum lanuginosum	田窓	l lerb	Common						**					**		
oenix loureiroi	刺葵	Shrub or small tree	Common							*						
yllanthus emblica	餘廿子,油廿子	Tree	Very common	*						*						*
yllodium pulchellum	排鏡草	Shrub	Very common												*	
per cathayanum	青蒟	Climber	Restricted			*										
per hancei	口前	Climber	Very common										*			
ameria rubra	維蛋花	Tree	Exotic. Commonly planted for greening							-						*
lygonum barbatum	毛製	Herb	Common			1	- ×.		*							1
lygonum chinense	火炭母	Herb	Very common										*			

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in IIK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong <i>Fung Shui</i> Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Polygonum glabrum	光蓼	Herb	Restricted						**							
Polygonum pubescens	短毛蓼	Herb	Common						*					**		
Praxelis clematidea	假臭草	Herb	Exotic, Very common											*		
Prunus persica	桃	Tree	Exotic, Commonly planted for fruit		**											
Psychotria asiatica	九節	Shrub	Very common	*		***				***			*		*	*
Pteris biaurita	狭眼鳳尾蕨	Herb	Common			*										
Pteris semipinnata	半邊旗	Herb	Very common			*				*			*			
Pueraria lobata	野岛	Climber	Very common			*				*	*					
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common						*			***				
Rhus hypoleuca	白背骥庸木	Tree	Common							*			**			
Rourea microphylla	小葉紅葉醇, 紅葉 藤	Woody climber	Common							*				-		
Sacciolepis indica	獲領草	Herb	Very common						*							
Sageretia thea	雀梅藤	Shrub	Common							**			*			
Sapium discolor	山烏桕	Tree	Very common							**						
Sapium sehiferum	鳥柏	Tree	Common							*					***	*
Sarcandra glabra	草珊瑚	Subshrub	Common			*										
Schefflera heptaphylla	鸭脚木	Tree	Very common			**	*			**						*
Schima superba	木荷	Tree	Common			-				**						*
Scolopia chinensis	刺传	Tree	Common	**												
Scolopia saeva	廣東刺柊	Tree	Common							*				2		

Publication Series No.12 page 61

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in IIK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Scoparia dulcis	冰塘草	Herb	Common										*		*	
Senna tora	決明.假緯豆	Shrub	Exotic. Common												***	
Solanum erianthum	假煙葉樹	Shrub	Exotic. Common							*	*					
Solanum torvum	水茄	Shrub	Exotic. Common										*		**	
Spermacoce stricta	雙花茸	Herb	Restricted		*											
Sphaerocaryum malaccense	稃皷	llerb	Common						**			**				
Spilanthes paniculata	金鈕扣	Herb	Common						*					*	**	
Sterculia lanceolata	假蘋婆	Tree	Very common			**	*			***						*
Strophanthus divaricatus	羊角拗	Woody climber	Common							*			-			
Strychnos angustiflora	牛眼馬錢	Woody climber	Common	*												
Symplocos cochinchinensis var. laurina	荧牛奶樹	Tree	Common													
Syzygium hancei	韓氏蒲桃, 紅鱗蒲 桃	Tree	Common			~										
Syzygium jambos	蒲桃	Tree	Exotic, Common	*		*				*		1				* .
Syzygium levinei	口前桃	Tree	Common				*			*						
Tadehagi triquetrum	胡蘆茶	Shrub	Very common							*						
Tetracera asiatica	錫葉廳	Woody climber	Very common			*						-				
l'ithonia diversifolia	腫柄菊,假向日葵	Herb	Exotic. Common		**											
Foxocarpus wightianus	弓果藤	Slender woody climber	Very common							*						

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in IIK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong <i>Fung Shui</i> Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Tylophora ovata	娃兒蔭	Slender woody climber	Common		l.		17	R								*
Urena lobata	尚梵天花	Subshrub	Common		1								***		***	
Urena procumbens	梵天花	Subshrub	Common										*		*	*
Utricularia bifida	挖耳草	Small herb	Common						*			*				
Uvaria macrophylla	紫玉盤	Woody climber	Common			*				**			*			
Vernonia cinerea	夜香牛	Herb	Very common										*		*	*
Viburnum odoratissimum	珊瑚樹	Tree	Very common	**		**	1			***	**				÷.	
Vitex quinata	山牡荊	Tree	Common		ъđ.					*						
Wedelia biflora	雙頭菊, 變花鹼維 菊	Herb	Common	*	in the											2
Xyris pauciflora	葱草	Herb	Restricted						*							
Zanthoxylum avicennae	筋擜花椒	Tree	Common		2		*			*						
Zanthoxylum nitidum	My cci 多十	Climbing shrub	Very common			×				*			*			
Fotal			196	23	14	46	18	12	40	86	16	19	34	19	27	34

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^ Status follows Xing et al. (2000) *Code for Abundance: ***= Abundant, *** = Frequent, ** = Occasional, * = Scarce

REFINES Publication Series No.12 page 63

▲ 등 ₩ 동₄ 는 바 유</sub> Publication Series No.12

ible A1-3. Flora specie	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland*	Secondary Woodland	Natural Watercourse	Developed / Village Area
cacia confusa	台灣相思	Tree	Exotic, Common, often planted in plantation		*		
corus gramineus	石菖蒲	Herb	Very common			**	
diantum flahellulatum	扇葉鐵線蕨	Herb	Very common	*	*		
dina pilulifera	水團花	Tree	Very common	*	*	**	
angium chinense	八角楓	Tree	Common	*			*
ocasia macrorrhizos	海芋	Herb	Very common	*	*	*	*
pinia hainanensis	草豆蔻	Herb	Very common	*		*	
visomeles indica	廣防風	Herb	Common				*
porusa dioica	銀紫	Tree	Very common .	***	***		
pallaria sinensis	土沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Hu <i>et al.</i> 2003), classified as Critically Endangered (CR) on the IUCN Red List	*			
chidendron clypearia	版耳道	Tree	Common	*			-
disia crenata	大羅傘	Shrub	Common		**		
disia lindleyana	ப்பட்டிரு	Shrub	Common		*		
disia quinquegona	羅拉	Small tree	Very common	*	*	**	
umbosa sp.	竹腦	Bambos	Common	*			
echnum orientale	烏毛蕨	Herb	Very common	**	**	*	
ehmeria nivea	苧麻	Shrub	Restricted		*		
ugainvillea spectabilis	筋肚胸	Climbing shrub	Exotic, Common				**
eynia fruticosa	黑面神	Shrub	Very common		*		•
idelia tomentosa	土蜜樹	Tree	Very common	*			
ucea javanica	鸦膽子	Shrub or tree	Common		*		

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [*]	Secondary Woodland	Natural Watercourse	Developed / Village Area
Byttneria aspera	刺果藤	Woody climber	Very common	*	**		
Carex chinensis	中華黨章	Herb	Common			*	31
Centella asiatica	崩大碗	Herb	Very common	*			
Centotheca lappacea	假淡竹葉	Herb	Common		*		
Cibotium barometz	金毛狗	Herb	Very common. Protected under Cap. 586, listed as Vulnerable (VU) in the China Red Data Book and is under State protection (category II) in China (Hu et al. 2003)		*	4	
Cinnamomum parthenoxylon	黄樟	Tree	Соттол	*	**		
Citrus reticulata	梏	Small tree	Common	- •			
Clausena lansium	黄皮	Tree	Exotic, Commonly planted for fruit	*			
Cleistocalyx nervosum	水釉	Tree	Common		**	**	
Cratoxylum cochinchinense	黄牛木	Tree	Very common	***	***		
Cuphea platycentra	雪茄花	Herb	Exotic, Commonly planted				•
Cyclosorus parasiticus	祥南毛蕨	Herb	· Very common	*	**	**	*
Dalbergia benthamii	兩廣黃檀	Woody climber	Common	**			
Daphniphyllum calycinum	牛耳楓	Tree	Common	u.	**		
Desmos chinensis	假陽爪	Woody climber	Common	*	*		
Dicranopteris pedata	芒其	Herb	Very common	*	**		
Dimocarpus longan	龍眼.桂間	Tree	Exotic, Restricted	*	*		*
Elaeagnus loureirii	難伯紫藤,羅 氏胡類子	Woody climber	Common				
Elephantopus scaber	地膽草	Herb	Common	*			
Erythrina variegata	刺桐	Tree	Exotic, Commonly planted				*
Eurva nitida	细菌郭伶	Shrub	Very common	*			

N 문서 Publication Series No.12 page 65

B Publication Series No.12

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [*]	Secondary Woodland	Natural Watercourse	Developed / Village Area
Ficus hispida	對葉榕	Tree	Very common				**
Ficus punila	将年 35	Climber	Very common	*			
Ficus variegata vat. chlorocarpa	背果榕	Tree	Common				*
Glochidion eriocarpum	毛果算量子	Tree	Very common	*	**		
Gnetum luofuense	羅浮買麻廳	Cimber	Very common, regarded as "Near Threatened" accordign to IUCN Red List	*	*		
Helicteres angustifolia	山芝麻	Subshrub	Very common		*		
llex asprella	梅葉冬母	Shrub	Very common	*	*		
llex cinerea	灰冬青	Tree	Common	*			
Kalanchoe pinnata	落地生根	Herb	Exotic, Common		1		*
Lantana camara	馬纓丹	Shrub	Exotic, Very common				*
Lepidagathis incurva	歸花草	Herb	Common				
Litsea rotundifolia var. oblongifolia	豺皮樟	Tree	Very common				
Lophatherum gracile	淡竹葉	Herb	Very common		*	15	
Lygodium japonicum	海金沙	Climber	Very common		*		
Machilus chekiangensis	浙江潤楠	Tree	Very common	*	**		
Macsa perlarius	錘魚膽	Shrub	Common	*			
Mallotus paniculatus	白楸	Тгее	Very common	***			**
Mangifera indica	杧果	Tree	Exotic, Commonly planted for fruit	*			
Melastoma malabathricum	野牡丹	Shrub	Common		*		
Melicope pteleifalia	三椏苦	Tree	Common		*		
Millettia dielsiana	山難血藤	Woody climber	Very common		*		
Paederia scandens	雞矢膝	Climber	Very common				*

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [*]	Fung Shui Woodland [*]	Secondary Woodland	Natural Watercourse	Developed / Village Area
Palhinhaea cernua	痈地蜈蜒, 燈 龍草	Creeping herb	Very common				
Pandanus austrosinensis	蔣死草	Herb	Common	*		*	
Panicum brevifolium	短葉黍	Herb	Very common			*	
Phoenix loureiroi	刺葵	Shrub or small tree	Common				
Pronephrium simplex	軍蘇新月蕨	Herb	Very common	*			
Psidium guajava	番石榴	Tree	Exotic, Common				+
Psychotria asiatica	九節	Shrub	Very common	***	***	**	
Pteris biaurita	狭眼鳳尾蕨	Herb	Common	. * .			
Pteris semipinnata	半邊旗	Herb	Very common		*	*	
Pyrrosia adnascens	贴生石章	Herb	Common	*			
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common	*			
Rubus leucanthus	白花懸鉤子	Climbing shrub	Common				
Rubus reflexus	蛇泡簕	Climbing shrub	Very common	*		*	
Sageretia thea	雀梅藤	Shrub	Соттол	*	*		
Sapium discolor	山鳥桕	Tree	Very common	*	*		
Sapium sehiferum	烏桕	Tree	Common	*	*		
Sarcandra glabra	草珊瑚	Subshrub	Common	*	*		
Saurauia tristyla	水東哥	Tree	Common	*	*	**	1
Schefflera heptaphylla	鸭腳木	Tree	Very common	***	***		
Scolopia saeva	廣東刺柊	Tree	Common		*		
Selaginella doederleinii	深綠卷柏	Herb	Common		*	1.1	
Smilax china	金剛藤	Climbing shrub	Very common	*			

Publication Series No.12

page 67

Publication Series No.12

cientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [*]	Secondary Woodland	Natural Watercourse	Developed / Village Area
milax glabra	土茯苓、光排 菝葜	Climbing shrub	Very common	*	*		-
phenomeris chinensis	励曲	Herb	Common		*		
erculia lanceolata	假頻婆	Tree	Very common	*	**	*	
yzygium hancei	韓氏蒲桃・紅 鰯蒲桃	Tree	Common	*			
yzygium levinei	山浦桃	Tree	Common	*	*		
etracera asiatica	錫辨藤	Woody climber	Very common	*	*		
rena lobata	肖梵天花	Subshrub	Common		*		
varia macrophylla	紫玉盘	Woody climber	Common		*		
iburnum odoratissimum	珊瑚樹	Tree	Very common	*	**		
'ikstroemia nutans	細軸剪花	Shrub	Common		*		
inthoxylum avicennae	筋撞花椒	Tree	Common		# 3		*
otal			97	58	60	17	18

* tatus follows Xing et al. (2000) # Tode for Abundance: ****= Abundant, *** = Frequent, ** = Occasional, * = Scarce

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [*]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Abrus mollis	毛相思子	Woody climber	Restricted												
Acacia confusa	台灣相思	Tree	Exotic, Common. often planted in plantation			**			•		***			*	
Acorus gramineus	石菖蒲	Herb	Very common		**	2									
Adiantum Nabellulatum	扁葉鐵線蕨	Herb	Very common	*											
Adina pilulifera	水團花	Tree, 5m	Very common		**										*
Adinandra millettii	黄瑞木	Tree	Common						*						
Agave americana	亂舌蘭	Perennial Herb	Exotic, Cultivated in HK (AFCD 2011)			- 2	,								
Ageratum conyzoides	積香薊,勝紅 薊	Herb	Exotic, Exotic (pantropical herb of American origin), very common		*	**	*				*				**
Alangium chinense	八角楓	Tree	Common	***			*		***		**				
Alocasia macrorrhizos	海芋	Herb	Very common	*			*		*						
Alternanthera sessilis	蓮子草	llerb	Common				*								
Ampelopsis cantoniensis	廣東蛇葡萄	Climber	Very common	**											
Aporusa dioica	銀紫	Tree	Very common	***					***						
Aquilaria sinensis	上沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Hu et al. 2003), elassified as Critically Endangered (CR) on the IUCN Red List	*											
Archidendron clypearia	猴耳環	Tree	Common						*						
Archidendron lucidum	亮紫猴耳環	Tree	Common				1			*					T

Publication Series No.12

page 69

Publication Series No.12

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland ^a	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Ardisia crenata	大羅傘	Shrub	Common	**						*					
Ardisia quinquegona	彈傘	Small tree	Very common	*					**						
Arundinella setosa	刺芒野古草	Herb	Very common				•								
Axonopus compressus	地毯草	Herb	Exotic, Common				***								
Baeckea frutescens	崗松	Shrub	Very common				*							*	**
Bambosa sp.	竹肠	Bambos	Common						*						
Basella alba	落英, 游菜	Herbaceous climber	Exotic, Restricted			×									
Bauhinia variegata	宫粉羊蹄甲	Tree	Exotic, Common								1				
Bischofia javanica	秋楓	Tree	Common						***		*			*	
Blechnum orientale	烏毛蕨	Herb	Very common		*				**	**	*				
Bougainvillea spectabilis	簕杜鹃	Climbing shrub	Exotic, Common	**											
Breynia fruticosa	黑面神	Shrub	Very common				•		*		*			*	*
Bridelia tomentosa	土蜜樹	Tree	Very common	*			*		**		*			*	
Cajanus scarabaeoides	蔓草蟲豆	Climber	Common				*								
Callicarpa formosana	杜虹花	Shrub	Common				*		*						
Callicarpa kochiana	枇杷葉紫珠	Shrub	Common						*		*				
Casuarina equisetifolia	木麻黃 . 牛尾 松	Tree	Exotic, often planted in plantation and along roadside, apparently semi-naturalized in the nature								**				
Cayratia corniculata	角花鳥藪莓	Climber	Very common						*						1
Centella asiatica	崩大碗	Herb	Very common			*	*		*		*			*	
Centotheca lappacea	假淡竹葉	Herb	Common						*		*				

Publication Series No.12

page 70

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [®]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Chrysopogon aciculatus	竹節草,假雀 麥	Herb	Very common		Ţ.		***	**						***	×
Cinnamomum camphora	樟	Tree	Common				*		**						
Cinnamomum parthenoxylon	黄樟	Tree	Common	***					•						
Cleistocalyx nervosum	水翁	Tree	Common	**	**				***		**	**			
Colocasia esculenta	芋	Herb	Cultivated		*							*			
Commelina diffusa	6666742	Herb	Common		**					**		***			
Cratoxylum cochinchinense	黄牛木	Tree	Very common		4		*				,				
Cyclobalanopsis myrsinifolia	小葉青岡	Tree	Common		ę				*						
Cyclosorus interruptus	間斷毛蕨	Herb	Common		ik (***			
Cyclosorus parasiticus	華南毛蕨	Herb	Very common	*	**		*		*	**	*	**		*	
Cynodon dactylon	狗牙根	Herb	Very common		5		*								
Cyperus difformis	異型莎草	Herb	Very common												٠
Cyperus iria	碎米莎草	Herb	Common				*	*							
Cyperus sp.	莎草屬	Herb	Common		- 2A - 1			*							
Cyrtococcum patens	弓果乘	Herb	Very common	**	ĥ.				10 °				1.0		
Daphniphyllum calycinum	牛耳楓	Tree	Common	*	4		•		***	*	•				
Desmodium gangeticum	大葉山蚂蚁	Subshrub	Common						•						
Desmodium triflorum	三點金	Herb	Very common	-			**	*					***	*	
Desmos chinensis		Woody climber	Common		1000		*		**						

Publication Series No.12

cientific Name		Growth Form	Status and Distribution in HK^	Fung Shui Woodland [*]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
esmos chinensis	假鷹爪	Woody climber	Common	**											
icranopteris pedata	ど荘	Herb	Very common	+	*		**		**		**			****	**
imocarpus longan	龍眼, 挂圆	Tree	Exotic, Restricted	*					•						
ioscorea bulbifera	黄绸	Climber	Common						*						
ioscorea cirrhosa	薯莨	Climber	Common		*									1	
iospyros morrisiana	羅浮柿	Tree	Very common	*											
lipta prostrata	證將	Herb	Common				+	**					*		
chhornia crassipes	鳳眼藍,大水 萍	Floating herb	Exotic, Common									***			
laeagnus loureirii	雖柏紫藤,羅 氏胡頹子	Woody climber	Common	*					•						
aeocarpus decipiens	杜英	Tree	Common	*											
'eocharis spiralis	螺旋鳞挛蕈	Herb	Regarded as Rare in Xing et al. (2000), common in several districts in HK including Yuen Long, Mai Po and Tai Ho (AFCD 2012)					**				**			
nbelia laeta	酸藤子	Woody climber	Very common	*											
nbelia ribes	白花酸藤子	Woody climber	Common						*						
nilia sonchifolia	一點紅	Herb	Very common				*								
ragrostis atrovirens	鼠婦草	Herb	Common				*								
ragrostis tenella	鲫魚草,南方 知風草	Herb	Very common									**			
riocaulon xangulare	華南穀精草	Herb	Very common		*			***					*		
upatorium chinense	非澤蘭・蘭 草	Herb	Restricted				*					*			

Publication Series No.12

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Eurya nitida	细菌菲伶	Shrub	Very common		*										
Ficus hirta	粗無情	Shrub	Common			1 N			•	*					
Ficus Hispida	對葉榕	Tree	Very common	*					*	*	*				
Ficus microcarpa	細葉槽	Tree	Common			**			*		***			*	
Ficus pumila	薜荔	Climber	Very common							**					
Ficus subpisocarpa	筆管招	Tree	Common						*						
Ficus variegata var. chlorocarpa	青果槽	Tree	Common	*			9 B		+	1					*
Ficus variolosa	變新格	Shrub or tree, 5m (10m)	Very common		*										
Fimbristylis aestivalis	夏飄拂草	Herb	Restricted		*										
Fimbristylis sieboldii	紡績無措茸	Herb	Common					*					*		
Geissapis cristata	建苞豆	Herb	Regarded as Rare in Xing et al. (2000), restricted to several locations including Deep Water Bay, Tai Mong Tsai, Sai Keng and Lantau Island according to AFCD 2008				**	**					**		
Glochidion eriocarpum	毛果算量子	Tree	Very common											*	
Glochidion hirsutum	厚葉算盤子	Tree	Common											***	
Glochidion Ianceolarium	艾膠算盤子, 大葉算盤子	Shrub	Common				*		****	4	**			***	
Glochidion zeylanicum	書港算戲子	Shrub	Common	**											
Hedyotis auricularia	耳翼	llerb	Common					**					*		
Hedyotis diffusa	白花蛇舌草	Herb	Very common			*	*		*						
llex pubescens	毛冬青	Shrub	Very common						*						T

a S V publication Series No.12 page 73

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK ^A	Fung Shui Woodland [*]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Imperata cylindrica var. major	絲茅	Herb	Very common				**				ĺ.	Ĺ			F
Ipomoea cairica	五爪金龍	Herbaceous climber	Exotic. Very common	*	**	**									
Ischaemum barbatum	粗毛鸭嘴草	Herb	Very common				***						1		
Jatropha integerrima	全緣葉颳瘋	Shrub	Exotic, Cultivated				*					1			
Kyllinga brevifolia	短薪水與松	Herb	Common				ŧ	*			1		**		
Kyllinga nemoralis	單穗水與蚣	Herb	Very common	*							*				
Lantana camara	馬缨丹	Shrub	Exotic, Very common	¢		**	*		*					**	
Leersia hexandra	孝氏禾	Herb	Common		*							***			
Leucaena leucocephala	銀合歡	Tree	Exotic, Common		*		*								
Lindernia antipoda	泥花草	Herb	Common				*					*			
Lindernia crustacea	母草	Herb	Restricted				*							*	
Liparis ferruginea	銹色羊耳蒜	Herb	Regarded as Scarce and Restricted, and is a locally endangered species(EN) in HK (Barretto et al. 2011)												
Litchi chinensis	荔枝	Tree	Exotic, Restricted	*										-	
Litsea cubeba	木巖子	Tree	Common	*											
Litsea glutinosa	漏稿樹	Tree	Very common	*										*	
Litsea monopetala	假柿木菓子	Tree	Restricted						\$	1					
Litsea rotundifolia var. oblongifolia	豺皮撞	Tree	Very common											**	
Lophatherum gravile	淡竹 葉	Herb	Very common				*		*		*				
Ludwigia adscendens	水龍	Herb	Common									**			
Ludwigia perennis	細花丁香夢	Herb	Restricted			-						*			

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK ^{A'}	Fung Shui Woodland [*]	Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Lygodium flexuosum	曲軸海金沙	Climber	Very common		*				*	*					
Lygodium japonicum	海金沙	Climber	Very common		ħ.		**							**	
Lygodium scandens	小菜海金沙	Climber	Common		8				*						
Machilus breviflora	短序洞栅	Tree	Very common		- 21										
Machilus chekiangensis	浙江润楠	Tree	Very common	**	* <u>}</u>	1			****	**	*			*	
Machilus pauhoi	创花潤楠	Tree	Regarded as Very Rare in Xing <i>et al.</i> (2000), common in several districts in HK including Tai Mo Shan, Shing Mun and Tai Po Kau (Personal observation)		10 C 10 C										
Macroptilium lathyroides	大翼豆	Creeping herb	Exotic, Common		<u>_</u>		*								
Macrothelypteris torresiana	普通針毛蕨	Herb	Very common											•	
Maesa perlarius	卸魚膽	Shrub	Common	**	8		*		***		**			**	
Mallotus paniculatus	白楸	Tree	Very common	**					***		*				+
Melastoma malabathricum	野牡丹	Shrub	Common		*		***		+	*	**			***	4.0
Melastoma sanguineum	毛葱	Shrub	Common		ų,		**		**					**	
Microstegium ciliatum	剛莠竹	Herb	Very common		*				-						
Mikania micrantha	薇甘菊	Herbaceous climber	Exotic, Very common	*	- 1975				*						
Mimosa pudica	含羞草	Herb	Exotic. Very common				**								
Miscanthus sinensis	쏜	Herb	Very common	1.1			*								
Mucuna birdwoodiana	白花油扇藤, 勃氏黧豆	Woody climber	Common	# X	New Sector										

R F I G Publication Series No.12

page 75

Publication Series No.12

icientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [*]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Aussaenda pubescens	玉紫金花	Climbing shrub	Very common						•						
Velumbo nucifera	荷花	Aquatic herb	Exotic. Commonly planted									**			
Osbeckia chinensis	金錦香,天香 爐	Herb	Very common												
Dxalis corniculata	酢液草	Herb	Very common			*	*	*			*				
Paederia scandens	難矢膳	Climber	Very common						*		*				*
	辅地娯報。燈 龍草	Creeping herb	Very common				••	-	*		*				
Pandanus tectorius	黨兜樹	Small tree	Very common												
Panicum brevifolium	短葉霏	Herb	Very common				*					*			
Panicum lichotomiflorum	水生菲	Herb	Common					*							
Panicum repens	烳地派,枯骨 草	Herb	Very common					**					**		
Paspalum conjugatum	兩耳草	Herb	Exotic, Common				***		•					***	
Paspalum distichum	雙德雀稗	Herb	Common					*							
Paspalum scrobiculatum var. orbiculare	圓果雀稗	Herb	Very common		*			**							
Pavetta hongkongensis	香港大沙葉	Shrub or small tree	Common, Protected under Cap. 96A						*						
Philydrum Ianuginosum	田感	llerb	Common					***				**	**		
Phyllanthus emblica	餘日子,油日 子	Tree	Very common								•.'			*	
Plantago major	車前草	Herb	Very common		1										T

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [*]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Polyspora axillaris	大頭茶	Tree	Very common				*		**		*			*	
Pronephrium simplex	單葉新月蕨	Herb	Very common		*					*					
Psidium guajava	番石榴	Tree	Exotic, Common	*		**	*		*		*			*	
Psychotria asiatica	北筋	Shrub	Very common	***		**			***	**	**				
Pteris ensiformis	劍葉鳳尾蕨, 井邊茵	Herb	Common								•				
Pteris multifida	井欄邊草	Herb	Very common						*	*		-			
Pieris semipinnata	半邊旗	Herb	Very common						*						
Pterocarpus indicus	紫檀,牛血樹	Tree	Exotic. Common						•						
Pueraria lobata	野葛	Climber	Very common	**					•						
Pycreus polystachyus	多德福莎	Herb	Very common				*	*					**		
Rhaphiolepis indica	車輪梅	Shrub or small tree	Very common				*		*						
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common	*			**							***	**
Rhus chinensis	院南木	Tree	Common				*		*		*			*	+
Rhus succedanea	野漆樹	Tree	Common	*			*		**					*	
Rosa laevigata	金樱子	Climbing shrub	Common											•	
Rourea microphylla	小葉紅葉藤 紅葉藤	Woody climber	Common		*				*						
Rubus leucanthus	白花懸鉤子	Climbing shrub	Common						*						
Rubus reflexus	蛇泡簕	Climbing shrub	Very common	*					•						
Sacciolepis indica	澱額草	Herb	Very common				**	*				*			

 Image
 Publication Series No.12
 page 77

Publication Series No.12

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland ^e	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Sageretia thea	雀梅麟	Shrub	Common	**					*						
Sagittaria sagittifolia	慈菇	Aquatic herb	Restricted						•						
Sapium discolor	山烏柏	Tree	Very common	*					*						
Sapium sebiferum	烏柏	Tree	Common	*			*		***		*			*	
Sarcandra glabra	草珊瑚	Subshrub	Common						**	- 25					
Saurauia tristyla	水東哥	Tree	Common		*					**					
Schefflera arboricola	他掌膝	Shrub	Exotic, Common			*			*	*	*				
Schefflera heptaphylla	鴨腳木	Tree	Very common	***	**				**						
Selaginella uncinata	塑製草	Herb	Common		*										
Senna bicapsularis	雙萊決明,雙 萊機	Shrub	Exotic. Ocassionally cultivated in IIK (AFCD 2008)			*			*						
Smilax china	金剛藤	Climbing shrub	Very common				*								
Solanum torvum	水茄	Shrub	Exotic. Common				*								
Spermacoce latifolia	國葉豐花草	Herb	Exotic, Restricted						*						
Spermacoce stricta	豐花草	Herb	Restricted						*						
Spilanthes paniculata	金釩扣	Herb	Common				*								
Stachytarpheta iamaicensis	假馬鞭	l lerb	Exotic, Common				*			æ.			1		
Sterculia lanceolata	假頻婆	Tree	Very common	*					*						
Symplocos cochinchinensis var. laurina	黄牛奶樹	Tree	Common	**											
Symplocos crassifolia	厚葉山礬。厚 葉灰木	Tree	Common												

Publication Series No.12

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

page 78

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK ^A	Fung Shui Woodland [*]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Syzygium hancei	翰氏蒲桃,紅 鱗蒲桃	Tree	Common	**					•	*				*	
Syzygium jambos	蒲桃	Tree	Exotic, Common	*	2		*								
Syzygium levinei	山蒲桃	Tree	Common	*							1				
Tadehagi triquetrum	葫蘆茶	Shrub	Very common				*		•					1	
Tetracera asiatica	錫新蘇	Woody climber	Very common	**		*			**						
Tetradium glabrifolium	棟葉呉茱萸	Tree	Common	*											
Tinospora sagittata	青牛膽	Climber	Common		÷					*					
Toddalia asiatica		Climbing shrub	Restricted						*						
Turpinia montana	山香園	Tree	Common		8				*						
Tylophora ovata	娃兒藤	Slender woody climber	Common	*	đi										
Urena lobata	肖梵天花	Subshrub	Common		1	**	**		*	1	*			**	
Urena procumbens	梵天花	Subshrub	Common		3		*		*						
Utricularia bifida	挖耳草	Small herb	Common		*			1							
Uvaria macrophylla	紫玉雞	Woody climber	Common	汞液	Ť										
Viburnum odoratissimum	用期樹	Tree	Very common	***					***		**				
Vitex negundo	黄荆	Shrub	Common	1			*								
Vitex quinata	山牡荊	Tree	Common		1				*						
Wedelia chinensis		Perennial Herb	Commou		2						•				
Wedelia trilohata	三裂葉蟛蜞菊	llerb	Exotic, Common		2			*				۰. ب			

Publication Series No.12

ientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK*	Fung Shui Woodland [*]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
nungia japonica	黄鹌菜	Herb	Very common				*								
inthoxylum sicennae	簕撇花椒	Tree	Common	*	*				**						
mthoxylum nitidum	Climbing shrub	Very common	-										**		
otal			205	60	31	17	80	21	103	20	44	20	11	36	15

' Status follows Xing et al. (2000) # Code for Abundance: ****= Abundant, *** = Frequent, ** = Occasional, * = Scarce

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

'able A1-5. Flora spec Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK ^A	Fung Shui Woodland [*]	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Acanthus ilicifolius	老鼠簕	Herb	Common		*						1	
Adiantum flabellulatum	扇葉鐵線蕨	Herb	Very common	*								
Adina pilulifera	水團花	Tree	Very common				*					
Aegiceras corniculatum	桐花樹	Shrub	Common		*						*	
Alangium chinense	八角楓	Tree	Common	54		**			+			
Alocasia macrorrhizos	海芋	Herb	Very common	+					*			*
Anisomeles indica	廣防風	Herb	Common						*			
Antidesma bunius	五月茶,五 味子	Tree	Common	**								
Aporusa dioica	銀柴	Tree	Very common	***		***						
Aquilaria sinensis	土沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Clategory II) in China (Ilu <i>et al.</i> 2003), classified as Critically Endangered (CR) on the IUCN Red List		~							
Archidendron clypearia	猴耳塤	Tree	Common	*		*						
Ardisia crenata	大羅傘	Shrub	Common	•								
Ardisia lindleyana	山血丹	Shrub	Common			*						
Ardisia quinquegona	羅倉	Small tree	Very common	*		**						
Aster baccharoides	白舌紫菀	Herb	Very common	*								
Avicennia marina	白骨壤	Tree	Common		**							
Axonopus compressus	地毯草	Herb	Exotic, Common					*	**			
Bauhinia championii	缺葉癖	Woody climber	Common						**			

Publication Series No.12 page 81

Publication Series No.12 page 80

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [*]	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Blechnum orientale	烏毛蕨	Herb	Very common			**						
Breynia fruticosa	黑面神	Shrub	Very common			*		*	*			*
Bridelia tomentosa	北蜜樹	Tree	Very common			*	-					
Brucea javanica	鴉牘子・苦 参子	Shrub or tree	Common			*			*			
Bruguiera gymnorhiza	木欖	Tree	Restricted		*							
Byttneria aspera	刺果藤	Woody climber	Very common	*		*						
Callicarpa kochiana	枇杷葉紫珠	Shrub	Common	*								
Carallia brachiata	竹節樹	Tree	Common			*						
Cerbera manghas	海芒果	Tree	Common		**	*	*		7		*	
Cibotium barometz	金毛狗	Herb	Very common. Protected under Cap. 586, listed as Vulnerable (VU) in the China Red Data Book and is under State protection (category II) in China (Hu <i>et al.</i> 2003)			*						
Cinnamonum parthenoxylon	黄樟	Tree	Common	***		*						
Clematis crassifolia	厚葉鏡線蓮	Climber	Restricted				*					
Conyza honariensis	香絲草	Herb	Exotic, Very common							*		
Conyza canadensis	小蓬草	Herb	Exotic, Very common							*		
Cratoxylum cochinchinense	黄牛木	Tree	Very common	**						*		*
Crinum asiaticum var. sinicum	文殊谢	Herb	Restricted						*			
Cyclosorus interruptus	間斷毛蕨	Herb	Common							*		
Cyclosorus parasiticus	萍南毛蕨	Herb	Very common	*		***						**
Dalbergia benthamii	兩廣貨價	Woody climber	Common	*						**		1

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [*]	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Daphniphyllum calycinum	牛 耳 棍	Tree	Common			**						
Desmodium heterocarpon	假地豆	Subshrub	Very common									
Desmos chinensis	假隱爪	Woody climber	Common	*		*						1
Dicranopteris pedata	芒萁	Herb	Very common	**		*		**				
Dimocarpus longan	龍眼,桂圓	Tree	Exotic, Restricted	4.9		*						
Dioscorea bulbifera	黄獨	Climber	Common	*				· · · · ·				
Elaeocarpus decipiens	杜英	Tree	Common									
Elephantopus scaber	地體草	Herb	Common							*		
Emilia sonchifolia	一點紅	Herb	Very common							*		
Excoecaria agallocha	海漆	Tree	Common		**						*	
Ficus hirta	粗禁檔	Shrub	Common	*								
Ficus hispida	對熊惰	Tree	Very common	*		*						
Ficus pumila	薛荔	Climber	Very common									*
Ficus subpisocarpa	衛管楷	Tree	Common		*							
Ficus variegata var. chlorocarpa	青果榕	Tree	Common					1				
Ficus variolosa	變葉榕	Shrub or tree	Very common	*								
Glochidion eriocarpum	毛果算盘子	Tree	Very common	*		*	-		*			
Glochidion zeylanicum	香港算盤子	Shrub	Common			*			**	*		*
Gnetum luofuense	羅浮寶麻藤	Clmber	Very common, regarded as "Near Threatened" accordign to IUCN Red List	*								
Symmanthera oblonga	海島藤	Slender woody climber	Regarded as Very Rare in Xing <i>et al.</i> (2000), common in serveral districs in HK including Sai Kung, Tsing Yi. Yeun Long and Lantau Island (AFCD 2009)		*			-				

Publication Series No.12

page 83

cientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
eritiera littoralis	銀鍍樹	Tree	Restricted		•						**	
ibiscus tiliaceus	黄梢	Tree	Common		***	*	**				***	
ex asprella	梅葉冬片	Shrub	Very common	*	-	*				-		
oomoea cairica	五爪金龍	Herbaceous climber	Exotic, Very common									**
chaemum barbatum	祖毛鸭嘴草	Herb	Very common				**	-				
alanchóe pinnata	落地生根	Herb	Exotic, Common									*
andelia obovata	水筆仔	Tree	Very common		****							
yllinga nemoralis	單德水換於	Herb	Very common									*
antana camara	馬纓丹	Shrub	Exotic, Very common						**	*		٠
asianthus attenuatus	斜基祖葉 木,小葉雞 屏樹	Shrub	Restricted .									
indernia crustacea	母草	Herb	Restricted							*		
indsaca orbiculata	國黨歸始款	Herb	Very common	*								
itchi chinensis	荔枝	Tree	Exotic, Restricted	*								
ophatherum gracile	淡竹葉	Herb	Very common									
vgodium japonicum	海金沙	Climber	Very common	*		*	*		*	**		
vgodium scandens	小葉海金沙	Climber	Common	*	1	*				**		
'acaranga tanarius var. mentosa	血個	Tree	Common			*						
achilus chekiangensis	浙江潤楠。	Tree	Very common	**		***						_
'aesa perlarius	鲫魚膽	Shrub	Common	*		**			*			*
allotus paniculatus	白锹	Tree	Very common	***		4.0			*			

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [*]	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Melastoma malabathricum	野牡丹	Shrub	Common					**	***	*		
Melastoma sanguineum	毛葱	Shrub	Common			*			*	+		
Melicope pteleifolia	三椏苦	Tree	Common			*						
Microcos nervosa	破布葉,布 渣葉	Tree	Солинов									
Microstegium ciliatum	刚莠竹	Herb	Very common			**		1		• •		
Mikania micrantha	薇甘菊	Herbaceous climber	Exotic, Very common					**	**	**	•	**
Mimosa pudica	含羞草	Herb	Exotic, Very common					**	**			
Neyraudia reynaudiana	如戲	Herb	Common							•		
Paederia scandens	難矢藤	Climber	Very common						*			*
Palhinhaea cernua	辅地蚂蛛. 燈籠草	Creeping herb	Very common						*			
Paliurus ramosissimus	馬甲子	Tree	Common		*						**	
Pandanus austrosinensis	镭兜草	Herb	Common	*								4
Pandanus tectorius	蘇兜樹	Small tree	Very common		*	*	4 *			*	***	
Paspalum conjugatum	過止實	Herb	Exotic, Common	1				*	**			
Paspalum scrohiculatum var. orhiculare	圓果銜稗	Herb	Very common				2					
Pavetta hongkongensis	香港大沙葉	small free	Common, Protected under Cap. 96A	*	- 1	*			*		· ·	
Phoenix loureiroi	刺荻	Shrub or small tree	Common								**	
Phyllanthus emblica	餘廿子,油 廿子	Tree	Very common									

K F n G Publication Series No.12 page 85

Publication Series No.12

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [®]	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Phyllodium pulchellum	排錢草	Shrub	Very common		-						-	
Piper cathayanum	背鉤	Climber	Restricted	*								
Piper hancei	山鉤	Climber	Very common	*	1							
Pongamia pinnata	水黄皮	Tree	Common		**							
Praxelis clematidea	假臭草	Herb	Exotic, Very common		-			**	**			
Psidium guajava	滑石榴	Tree	Exotic, Common									**
Psychotria asiatica	九節	Shrub	Very common	2.* *		***			*			
Pteris biaurita	狭眼鳳尾蕨	Herb	Common	*								
Pteris semipinnata	半邊旗	Herb	Very common	*								
Pteris vittata	蜈蚣草	Herb	Very common									
Pueraria lobata	野葛	Climber	Very common						*	**		
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common	*		*			-	*		
Rhus chinensis	獵廣木	Tree	Common	*						*		
Rhus hypoleuca	白背鹽廠木	Tree	Common						*			
Rhus succedanea	野漆樹	Tree	Common			*						1.5
Rourea microphylla	小 新紅 葉 藤 · 紅 葉 藤	Woody climber	Common	*		*						
Rubus reflexus	蛇泡簕	Climbing shrub	Very common	*								
Sageretia thea	雀梅藤	Shrub	Common			*						
Sapium discolor	山鳥柏	Tree	Very common	*					*	*		
Sapium sehiferum	烏桕	Tree	Common	*								
Sarcandra glabra	草珊瑚	Subshrub	Common	**		**						
Schefflera heptaphylla	鴨腳木	Tree	Very common	**		***						

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^		Fung Shui Woodland [®]	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Scolopia chinensis	刺柊	Tree	Common			**							
Scolopia saeva	廣東刺柊	Tree	Common	Ň			*						
Scoparia dulcis	冰塘草	Herb	Common	€.						*			
Solanum torvum	水茄	Shrub	Exotic, Common		*				*				**
Sphenomeris chinensis	烏韭	Herb	Common	, â	*				÷				
Stachytarpheta jamaicensis	假馬鞭	Herb	Exotic, Common						*				
Sterculia lanceolata	假親婆	Tree	Very common		**		\$**		*				
Syzygium hancei	韓氏蒲桃 · 紅鱗蒲桃	Tree	Common	-								19.	
Syzygium jambos	菏桃	Tree	Exotic, Common	-	*		*	1.1					
Syzygium levinei	山蒲桃	Tree	Common	7	•								
Tetracera asiatica	錫葉麟	Woody climber	Very common		*		+						
Trema tomentosa	山黄麻	Tree	Common	ie	-					*		*	
Friumfetta rhomboidea	刺朝鮮	Subshrub	Common										*
Tylophora ovata	娃兒藤	Slender woody climber	Common	ć									
Urena lobata	尚梵天花	Subshrub	Common				*	1	*	***	•		
Urena procumbens	梵天花	Subshrub	Common							*			
Uvaria macrophylla	紫玉盤	Woody climber	Common	ł	*		*						
Vernonia cinerea	夜香牛	Herb	Very common	5						*			
Viburnum odoratissimum	珊瑚樹	Tree	Very common		-		*						
Vitex quinata	山牡荊	Tree	Common		*								

ological and Conservation Importance of	f Six Sai Kung Country Park Enclaves
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icientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
anthoxylum ailanthoides	椿葉花椒	Tree	Regarded as Rare in Xing et al. (2000), restricted to several locations in 11K such as Chek Keng and Tai Long Sai Wan according to AFCD 2008						*			
anthoxylum avicennae	簕樯花椒	Tree	Common	+		*				*		
anthoxylum nitidum	树道針	Climbing shrub	Very common	*		+		**	*			
otal			140	64	15	57	8	12	41	25	12	16

page 88

Publication Series No.12

' Status follows Xing et al. (2000) i Code for Abundance: ****= Abundant, *** = Frequent, ** = Occasional, * = Scarce

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Table A1-6. Flora species recorded within Pak Sha O enclave

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Fang Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Abrus mollis	毛相思于	Woody climber	Restricted				*	*				
Achyranthes aspera	土牛腺	Herb	Common									*
Acorus gramineus	石菖蒲	Herb	Very common			**						
Adenostemma lavenia	ド田菊	Herb	Restricted	**								
Adiantum flahellulatum	扇葉鐵線蕨	Herb	Very common				•	*				
Adina pilulifera	水膕花	Tree	Very common		*	**						
Adinandra millettii	黄瑞木	Tree	Common	*								
Alangium chinense	八角楓	Tree	Common		***		**	**			*	
Alocasia macrorrhizos	海芋	llerb	Very common			*		*				
Alpinia hainanensis	華豆蔻	Herb	Very common			**		*				
Alpinia stachyodes	密位山麓	Herb	Common		*	*	*					
Anisomeles indica	廣防風	Herb	Common		*							
Antidesma bunius	五月茶,五味了	Tree	Common				*					
Antirhea chinensis	毛茶	Small tree	Very common		*							
Aporusa dioica	銀柴	Tree	Very common		**		***	***				
Aquilaria sinensis	土沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Iu et al. 2003), classified as Critically Endangered (CR) on the IUCN Red List		¥							
Archidendron clypearia	影耳頃	Tree	Common		8							

Publication Series No.12 page 89

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh"	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Ardisia crenata	大羅傘	Shrub	Common		*	*	**	*				
Ardisia lindleyana	ሀገመት	Shrub	Common		*							
Ardisia quinquegona	羅傘	Small tree	Very common		**		**	**				
Axonopus compressus	地毯草	Herb	Exotic, Common							***		
Bambosa sp.	竹屬	Bambos	Common		*		-					
Bauhinia glauca	粉葉羊蹄甲, 羊蹄甲藤	Woody climber	Very common				***					
Bischofia javanica	秋楓	Tree	Common				*					
Blechnum orientale	烏毛獣	Herb	Very common		**	*	•	**		~		
Bothriochloa ischaemun	白羊草	Herb	Common									*
Bougainvillea spectabilis	簕肚胸	Climbing shrub	Exotic. Common								*	
Breynia fruticosa	黑面神 ·	Shrub	Very common		*			đ		3		
Bridelia tomentosa	土蜜樹	Tree	Very common		*							
Brucea javanica	鸦膽子,苦参 子	Shrub or tree	Common		**							
Byttneria aspera	刺果藤	Woody climber	Very common		****		***	**				
Caesalpinia crista	假老虎簕	Woody climber	Very common		*			*				
Calamus tetradactylus	白藤	Climber	Common			*	*					
Calliandra haematocephala	紅絨球	Shrub	Exotic, Commonly cultivated								*	
Carex chinensis	中幕黨章	Herb	Common			*						

Publication Series No.12

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

page 90

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK ^A	Marsh	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Catharanthus roseus	長眷花	Herb	Exotic, Common			-			1.		*	
Cayratia corniculata	角花鳥藪莓	Climber	Very common		1		*					
Centella asiatica	崩大碗	Herb	Very common	*								3
Cibotium barometz	金毛狗	Herb	Very common, Protected under Cap. 586. listed as Vulnerable (VU) in the China Red Data Book and is under State protection (category II) in China (Hu <i>et al.</i> 2003).		*	*						-
Cinnamomum camphora	樟	Tree	Common		*		*					
Cinnamomum parthenoxylon	黄椋	Tree	Common		**		***	***				
Cleistocalyx nervosum	水翁	Tree	Common		**	**	*					
Clerodendrum chinense	重編與茉莉	Shrub	Common							1	*	
Colocasia esculenta	芋	Herb	Cultivated	*								**
Commelina diffusa	節節草	Herb	Common	*	8							
Coriandrum sativum	芫荽	Herb	Exotic, Cultivated		5							**
Cratoxylum cochinchinense	黄牛木	Tree	Very common		***	*	• •	*				
Cyclosorus interruptus	間斷毛蕨	Herb	Common	**								*
Cyclosorus parasiticus	華南毛蕨	Herb	Very common		**		**	*				
Cyperus compressus	扁穗莎草	Herb	Very common	*	-							*
Cyperus pilosus	毛軸莎草	Herb	Common									*
Cyrtococcum patens	弓果黍	Herb	Very common	**	**							**
Dalbergia benthamii		Woody climber	Common		**		**	•	*			•

Publication Series No.12 page 91

ientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh [*]	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
ilbergia hancei	藤黄檀	Woody climber	Common				•	•				-
iphniphyllum lycinum	牛耳傷	Tree	Common		***/		*	*				
smodium heterocarpon	假地豆	Subshrub	Very common	*						1		-
esmos chinensis	假應爪	Woody climber	Common		*		**	*	*			
cranopteris pedata	芒其	Herb	Very common		*		*	**	*			
mocarpus longan	龍眼,桂圓	Tree	Exotic, Restricted			1					*	
oscorea bulbifera	资调	Climber	Common		*							
ospyros eriantha	烏柿	Tree	Very common		*			*				
ospyros morrisiana	羅浮柿	Tree	Very common		*			*				
aeagnus Ioureirii	雞柏紫藤,羅氏 胡顏子	Woody climber	Common		*		•	*				
aeocarpus decipiens	杜英	Tree	Common				*					
ephantopus scaber	地膽草	Herb	Common							**		
eutherococcus foliatus	白簕	Woody climber	Restricted	*			•					
nbelia ribes	白花酸糠子	Woody climber	Common					18				
nbelia vestita	密曲酸縣子	Woody climber	Common				*				-	
idospermum chinense	黃榈	Tree	Restricted		**		**					
pipremnum aureum	绿雜	Climber	Exotic, Commonly cultivated				4					
iocaulon truncatum	菲律賓穀精草	Herb	Common	*								

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Ficus benjamina	電雅槽	Tree	Exotic. Commonly planted for greening					*				
Ficus hirta	祖葉榕	Shrub	Common		*			*		1		1
Ficus hispida	對葉懵	Tree	Very common		•		*					
Ficus microcarpa	細葉楷	Tree	Common				*					
Ficus pumila	Č# <i>3</i> 5	Climber	Very common								*	
Ficus pyriformis	舶梨摺 .	Shrub	Common			*						
Fimbristylis sieboldii	銹鱗爛拂草	Herb	Common	*								
Floscopa scandens	聚花草	Herb	Common	***		*				*		**
Fuirena umbellata	英關草	Herb	Common	**								*
Garcinia oblongifolia	黄牙果	Tree	Very common		*			*				
Geissapis cristata	睫苞豆	Herb	Regarded as Rare in Xing et al. (2000), restricted to several locations including Deep Water Bay, Tai Mong Tsai, Sai Keng and Lantau Island according to AFCD 2008	****						1914		**
Glochidion eriocarpum	毛果算盤子	Tree	Very common				*	*				_
Glochidion wrightii	白背算盤子	Tree	Very common					*				
Glochidion zeylanicum	香港算盤子	Shrub	Common	**				***		••		•
Gnetum luofuense	研浮買麻醉	Cimber	Very common, regarded as "Near Threatened" accordign to IUCN Red List		*	*			*			
Hedychium coronarium	趙花	Herb	Exotic, Common			*		_	-		_	1
Houttuynia cordata	魚腥華	Herb	Regarded as Very Rare in Xing et al. (2000), restricted to several locations including Lam Tsuen and Sha Lo Tung according to AFCD 2007	**					2		8	

Publication Series No.12

page 92

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh"	Secondary Woodland	Natural Watercourse	Pak Sha O <i>Fung</i> Shui Woodland		Ruderal Area Pak Sha O Ha Yeune	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Hydrocotyle sibthorpioides	天胡荽	Herb	Common									*
Hygrophila salicifolia	水穀衣	Herb	Common	*								
Hypericum japonicum	地耳草	Herb	Very common	•								
Hypserpa nitida	夜花藤	Woody climber	Very common					*				
llex asprella	梅葉冬青	Shrub	Very common		*		*	*		*		
Impatiens chinensis	乾鳳仙	Herb	Common	**								**
lpomoea cairica		Herbaceous climber	Exotic. Very common		*	*					*	
Ischaemum barbatum	租毛醫嘴草	Herb	Very common	***								
Kyllinga brevifolia	短葉水蜈蚣	Herb	Common	*						*		*
Kyllinga nemoralis	單穗水蜈蚣	Herb	Very common				10.4				*	
Leersia hexandra	李氏禾	Herb	Common	**								*
Lemmaphyllum microphyllum	伏石凝	llerb	Common									
Lepidagathis incurva	麟花草	Hcrb	Common		*							
Ligustrum sinense		Shrub or small tree	Common		*							
Lindernia oblonga	棱萼母草	Herb	Restricted	**						*		*
Lindernia rotundifolia	迷你虎耳草	Herb	Restricted	*	-							*
Lindsaea orbiculata	團熊鱗始蕨	Herb	Very common		*		*					
Liparis ferruginea	銹色羊耳蒜	Herb	Regarded as Scarce and Restricted, and is a locally endangered species (EN) in HK (Barretto et al. 2011)	*			-					

Ecological and Conservation Importance of Six Sal Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK ^A	Marsh	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Litsea rotundifolia var. oblongifolia	豺皮樟	Tree	Very common		•		*	•				
Lonicera macrantha	大花忍冬	Climber	Common .		*							
Lophatherum gracile	淡竹葉	Herb	Very common		+			*				
Lophostemon confertus	紅膠木	Tree	Exotic, Commonly planted		*							
Ludisia discolor	石基	Herb	Regarded as infrequent but widespread, and is a locally endangered species (EN) in HK (Barretto et al. 2011)		*							
Ludwigia adscendens	水龍	Herb	Common	*								*
Ludwigia hyssopifolia	草龍	Herb	Common	*								
Ludwigia octovalvis	毛草能	Herb	Common	۰.						*		*
Ludwigia x taiwanensis	台灣水龍	Herb	Exotic, Common	*								*
Lygodium japonicum	海金沙	Climber	Very common		4.0		*		*			
Lygodium scandens	小葉海金沙	Climber	Common	*	*			*	*			
Macaranga tanarius var. tomentosa	血侗	Tree	Common									
Machilus breviflora	短序潤楠	Tree	Very common				*					
Machilus chekiangensis	浙江潤楠	Tree	Very common		** -		*	***				
Maesa perlarius	鲫鱼脑	Shrub	Common		**		**	**	*		*	
Mallotus paniculatus	白楸	Tree	Very common		***		**		*	*		
Mangifera indica	杧果	Tree	Exotic, Commonly planted for fruit								*	
Melastoma malabathricum	野牡丹	Shrub	Common	**								\$
Melastoma sanguineum	毛薏	Shrub	Common		*			*				

Publication Series No.12

page 94

Dry Agricultural Land Pak Sha O Fung Shui Woodland Developed / Village Area Seasonally Wet Grassland Secondary Woodland Marsh^{*} atural Watercou uderal Area k Sha O Ha Yeun ng Shui Chinese Growth Status and Distribution in HK^ ientific Name Common Name Form elicope pteleifolia 一位古 Tree Common 4 eliosma rivida 策羅子 Common Tree . Herbaceous 薇甘菊 Exotic, Very common likania micrantha climber Woody LIMENTIN tillettia dielsiana Very common 裸花水竹葉 urdannia nudiflora Herb Common ** Climbing 玉载金花 Very common ussaenda pubescens shrub eyraudia reynaudiana 類蘆 Herb Common 短小蛇根草 Herb Common phiorrhiza pumila . 釉地蜈蚣.斑í Creeping alhinhaea cernua Very common herb andanus austrosinensis 网络克莱 Herb Common ** anicum brevifolium 如带季 Herb Very common ** ** anicum dichotomiflorum 水生素 Herb Common anicum repens 舖地乘/枯雪草 Herb Very common ** 兩耳草 Herb Exotic, Common Paspalum conjugatum aspalum scrobiculatum 间果雀稗 Herb Very common ar. orbiculare Shrub or 香港大沙蔡 Common, Protected under Cap. 96A Pavetta hongkongensis small tree III Philydrum lanuginosum Herb Common ... Shrub or Phoenix loureiroi 刺葵 Common small tree

Publication Series No.12

I plogical and Conservation Importance of Six Sai Kung Country Park Enclaves

page 96

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh [*]	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Fax Sna O na 1 eung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Piper cathayanum	骨药	Climber	Restricted		**		*		*			1
Pogostemon auricularius	水珍珠菜	Herb	Common	**						*		**
Polygonum barbatum	毛貓	Herb	Common	**								*
Polygonum glabrum	光磁	Herb	Restricted									*
Polygonum pubescens	短毛蓼	Herb	Common	**						**		**
Pothos chinensis	石相	Epiphytic climber	Very common			*						
Pronephrium simplex	單葉新月蕨	Herb	Very common		*							
Psidium guajava	番石榴	Tree	Exotic, Common							*		
Psychotria asiatica	九節	Shrub	Very common		***	*	***	**	*		*	
Psychotria serpens	登九節	Semi-woody climber	Very common					*				
Pteris semipinnata	半邊旗	Herb	Very common		**	**	**	*	*			
Quisqualis indica	使君子	Woody climber	Restricted								*	
Rhaphiolepis indica	車輪悔	Shrub or small tree	Very common			*					*	
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common		*							
Rhus hypoleuca	白背鹽廣木	Tree	Common		•							
Rhus succedanea	野冻樹	Tree	Common		**			19				
Rourea microphylla	小葉紅葉藤, 紅葉藤	Woody climber	Common		*			*			÷	
Rubus leucanthus	白花魅绚子	Climbing shrub	Common									

t n c Publication Series No.12 page 97

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh ⁴	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Fax Sha O ha reung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Rubus reflexus	蛇泡筋	Climbing shrub	Very common		*							
Sacciolepis indica	實證中	Herb	Very common	*								*
Sageretia thea	雀梅藤	Shrub	Common				*					
Salvia plebeia	荔枝草,雪見草	Herb	Restricted		1					**		
Sapium discolor	山鳥柏	Tree	Very common				*					
Sapium sebiferum	烏柏	Tree	Common		*		*			**		
Sarcandra glabra	范珊瑚	Subshrub	Common		*		+	*				
Saurauia tristyla	水東哥	Tree	Conimon		*	**	. *	-				
Schefflera heptaphylla	鸭脚木	Tree	Very common		**		***	***				
Scolopia saeva	廣東刺柊	Tree	Common		,		*	*				
Senna alata	翅荚決明	Shrub	Exotic, Common								*	
Smilax china		Climbing shrub	Very common									
Smilax glahra		Climbing shrub	Very common				*	*				
Smilax lanceifolia var. opaca		Climbing shrub	Common		*			*		-		
Sphaerocaryum malaccense	杼亟	Herb	Common	***								**
Sphenomeris chinensis	烏非	Herb	Common		*		*	*				
Spilanthes paniculata	金銀扣	l lerb	Common	*	- 2					*		*
Stephania longa	千金藤	Climber	Common		*							
Sterculia lanceolata	假頻婆	Tree	Very common		**		***	*				

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [*] .	Marsh ⁴	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Strophanthus divaricatus	羊角拗	Woody climber	Common		*							
Symplocos cochinchinensis var. laurina	黄牛奶樹	Tree	Common	*				***				
Symplocos glauca	羊舌樹	Tree	Common									2
Symplocos lancifolia	光葉山礬	Tree	Common					8				
Symplocos sumuntia	山砦	Tree	Restricted		*							-
Syzygium hancei	韓氏蒲桃	Tree	Common		*			* ~				
Syzygium jambos	蒲桃	Tree	Exotic, Common		*		*	*				
Syzygium levinei	山蒲桃	Tree	Common		*		*	*				
Tectaria subtriphylla	叉蕨	Herb	Common				*					
Tetracera asiatica	朔葉藤	Woody climber	Very common		**		*					
Triumfetta rhomboidea	刺剪麻	Subshrub	Common		5					8.H		
Tylophora ovata	娃兒藤	Slender woody climber	Common									
Urena lobata	肖梵天花	Subshrub	Common	*	1			1		**		*
Urena procumbens	梵天花	Subshrub	Common	*		1				**		•
Utricularia bifida	控耳草	Small herb	Common	*								*
Uvaria macrophylla		Woody climber	Common		*		•	*				
Viburnum odoratissimum	珊瑚樹	Tree	Very common		***	v.	**	**		**		
Wikstroemia nutans	細軸麶花	Shrub -	Common				*	*			11	1.1

cientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh"	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	ng Shui oodland	Ruderal Area Pak Sha O Ha Yeung	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
yris pauciflora	感样	llerb	Restricted	*								
anthoxylum avicennae	簕檀花椒	Tree	Common		*			*				
anthoxylum nitidum	网络科	Climbing shrub	Very common		**		*	*	*			
otal			200	53	100	26	77	66	15	22	15	36

page 100

Status follows Xing et al. (2000) Code for Abundance: ****= Abundant, *** = Frequent, ** = Occasional, * = Scarce

Appendix 2. Avian Species Recorded or Predicted to Occur in the Enclave Habitats

Publication Series No.12

1 IV KFBG Publication Series No.12

page 101

 Table A2-1. Avian species recorded (1) or predicted to occur (P) in the habitats.

 Habitats: FSW - Fung Shui & Secondary Woodland; SHG-Shrubland / Grassland; GRA - Grassland; DAL - Dry Agricultural Land; SWG - Seasonally Wet Grassland; MAR - Margine; BVG - Backshore Vegetation, RUD - Ruderal; DVA - Developed / Village Area; WGR - Waste Ground.

 Marshi, PON - Pond; NWA - Natural Watercourse; MAN - Mangrove; BVG - Backshore Vegetation, RUD - Ruderal; DVA - Developed / Village Area; WGR - Waste Ground.

English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	swg	MAR	PON	NWA	Sea .	MAN	BVG	RUD	DVA	WGR
Chinese Francolin	Francolinus pintadeanus			1	1											
Japanese Quail	Coturnix japonica				Р											
Malayan Night Heron	Gorsachius melanolophus		р													1
Black-crowned Night Heron	Nycticorax nycticorax	(LC)						1	1	1		1	1			
Striated Heron	Butorides striata	(LC)								P		P		1		
Chinese Pond Heron	Ardeola bacchus	PRC/(RC)						1	1	1	-	1	1			
Eastern Cattle Egret	Bubulcus coromandus							1	1							
Grey Heron	Ardea cinerea	PRC									1	1	1			
Great Egret	Ardea alba	PRC/(RC)				1					1	1	1			
Intermediate Egret	Egretta intermedia		1			1		1								
Little Egret	Egretta garzetta	PRC/(RC)		1							1	1	1			
Pacific Reef Heron	Egretta sacra										1		1			
Black Baza	Aviceda leuphotes		1													
Crested Honey Buzzard	Pernis ptilorhynchus	LC	1													
Black Kite	Milvus migrans	(RC)		1	1	1	1	1	1				1	1	1	1
White-bellied Sea Eagle	Haliaeetus leucogaster	(RC)	1								1	1	1			
Crested Serpent Eagle	Spilornis cheela	(LC)	1	1												
Crested Goshawk	Accipiter trivirgatus		1	1												
Chinese Sparrowhawk	Accipiter soloensis		Р	P												
Japanese Sparrowhawk	Accipiter gularis		1	1			1.1									
Besra	Accipiter virgatus		1	1												•
Eastern Buzzard	Buteo japonicus			Р	P	Р	Р	Р	P							
Bonelli's Eagle	Aquila fasciata	(RC)	1													
Common Kestrel	Falco tinnunculus			1	1	1										
Amur Falcon	Falco amurensis		1													
Eurasian Hobby	Falco subbuteo		1												5	

434		a
K T B G	Publication Series No.12	

page 102

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGI
Peregrine Falcon	Falco peregrinus	(LC)		1	1	1	1	1	1					-		
White-breasted Waterhen	Amaurornis phoenicurus			1				1	1	1		1	1			
Eurasian Woodcock	Scolopax rusticola		1	1			1	1			1					
Common Sandpiper	Actitis hypoleucos										р	р	р	122		
Oriental Turtle Dove	Streptopelia orientalis		1	1							-					
Spotted Dove	Spilopelia chinensis		1	1		1	t.		1				1	1	1	1
Common Emerald Dove	Chalcophaps indica		1	1												
Greater Coucal	Centropus sinensis			P	P	C										
Lesser Coucal	Centropus bengalensis			P	P										1	
Chestnut-winged Cuckoo	Clamator coromandus		1	1												
Asian Koel	Eudynamys scolopaceus		1	1											1	
Large Hawk Cuckoo	Hierococcyx sparverioides		1													
Hodgson's Hawk Cuckoo	Hierococcyx nisicolor		1	1												
Indian Cuckoo	Cuculus micropterus			1											1	
Oriental Cuckoo	Cuculus optatus		1	1												1
Collared Scops Owl	Otus lettia		1	1												1
Eurasian Eagle Owl	Bubo bubo	RC			р											
Brown Fish Owl	Ketupa zeylonensis	RC	1				\$	1		1	1					
Grey Nightjar	Caprimulgus jotaka	LC	1													
Savanna Nightjar	Caprimulgus affinis			1	1											
Pacific Swift	Apus pacificus	(LC)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
House Swift	Apus nipalensis		1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oriental Dollarbird	Eurystomus orientalis		1	1			1					8				
White-throated Kingfisher	Halcyon smyrnensis	(LC)						р	Р	P	P	Р	Р			
Black-capped Kingfisher	Halcyon pileata	(LC)						J .			1	1	1			
Common Kingfisher	Alcedo atthis									1	1	1	1			
Eurasian Hoopoe	Upupa epops			Р	P						1					
Black-winged Cuckooshrike	Coracina melaschistos		1													
Ashy Minivet	Pericrocotus divaricatus		1													

Publication Series No.12

page 103

English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGF
Grey-chinned Minivet	Pericrocotus solaris	LC	P					1								-
Scarlet Minivet	Pericrocotus speciosus		1	1						-						
Tiger Shrike	Lanius tigrinus		P													
Bull-headed Shrike	Lanius bucephalus			1	1			-								
Brown Shrike	Lanius cristatus			1	1	1										
Long-tailed Shrike	Lanius schach			1	1	1									1	
White-bellied Erpornis	Erpornis zantholeuca	LC	1													
Black-naped Oriole	Oriolus chinensis	LC	Р												-	
Black Drongo	Dicrurus macrocercus			1 .												
Ashy Drongo	Dicrurus leucophaeus	LC	Р													
Hair-crested Drongo	Dicrurus hottentottus		1	1												
Black-naped Monarch	Hypothymis azurea		1	1	1						1					
Asian Paradise-Flycatcher	Terpsiphone paradisi	LC	1													
Japanese Paradise- Flycatcher	Terpsiphone atrocaudata	NT.LC	1												×	
Red-billed Blue Magpie	Urocissa erythroryncha			1												
Grey Treepie	Dendrocitta formosae	LC	1	1		1.1.1										
Collared Crow	Corvus torquatus	NT.LC									P	p	p			
Large-billed Crow	Corvus macrorhynchos		1	1												
Grey-headed Canary- flycatcher	Culicicapa ceylonensis		1													
Cinercous Tit	Parus cinereous		1	1												
Red-whiskered Bulbul	Pycnonotus jocosus		1	1	1	1	1	1	1	1		1	1	1	1	1
Chinese Bulbul	Pycnonotus sinensis		1	1	1	1	1	1	1	1		1	1	1	1	1
Sooty-headed Bulbul	Pycnonotus aurigaster			1	1	1										
Chestnut Bulbul	Hemixos castanonotus		1	1												
Barn Swallow	Hirundo rustica		1	1	1	1	1	1	1	1		1	1	1	1	1
Pygmy Wren-babbler	Pnoepyga pusilla		1		-	1										
Mountain Tailorbird	Phyllergates cuculatus		1											1		
Japanese Bush Warbler	Horornis diphone			1							e - 19		1.1			

English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGF
Manchurian Bush Warbler	Horornis borealis			1						-		-				
Brown-flanked Bush Warbler	Horornis fortipes		1													
Asian Stubtail	Urosphena squameiceps		1	1												
Dusky Warbler	Phylloscopus fuscatus			1		1	1									
Radde's Warbler	Phylloscopus schwarzi			1												
Chinese Leaf Warbler	Phylloscopus yunnanensis		1													
Pallas's Leaf Warbler	Phylloscopus proregulus		1	1											1	-
Yellow-browed Warbler	Phylloscopus inornatus		1	1									1		1	
Hume's Leaf Warbler	Phylloscopus humei		1												1	-
Arctic Warbler	Phylloscopus borealis		1	1												-
Japanese Leaf Warbler	Phylloscopus xanthodryas		1	1												1
Two-barred Warbler	Phylloscopus plumbeitarsus		1				-									
Pale-legged Leaf Warbler	Phylloscopus tenellipes		1	1												
Sakhalin Leaf Warbler	Phylloscopus borealoides		1	1										1		
Eastern Crowned Warbler	Phylloscopus coronatus		1	1												
Goodson's Leaf Warbler	Phylloscopus goodsoni		1	1												
Sulphur-breasted Warbler	Phylloscopus ricketti		P	-	-		-					-				
White-spectacled Warbler	Seicercus affinis		Р						-				-			
Manchurian Reed Warbler	Acrocephalus tangorum	VU	1					1					1			
Russet Bush Warbler	Locustella mandelli			1	1											
Yellow-bellied Prinia	Prinia flaviventris			1	1	1	1	1					1	1	1	1
Plain Prinia	Prinia inornata				P											
Common Tailorbird	Orthotomus sutorius		1	1	1	1	6		1				1	1	1	I
Streak-breasted Scimitar Babbler	Pomatorhinus ruficollis		1													
Rufous-capped Babbler	Stachyridopsis ruficeps	LC	1													
Chinese Hwamei	Garrulax canorus			1											-	
Masked Laughingthrush	Garrulas perspicillatus		1	1				1							11	1

Publication Series No.12 page 105

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGF
Greater Necklaced Laughingthrush	Garrulax pectoralis		1	1								-				
Black-throated Laughingthrush	Garrulax chinensis		1	1												
Blue-winged Minla	Minla cyanouroptera		1													
Chestnut-collared Yuhina	Yuhina castaniceps	LC	1								1					
Chestnut-flanked White- eye	Zosterops erythropleurus		1					ч. П								
Japanese White-eye	Zosterops japonicus		1	1											1	
Crested Myna	Acridotheres cristatellus			1	1	1						1	1	1	1	1
Red-billed Starling	Spodiopsar sericeus	I.C		1	1	1										
Black-collared Starling	Gracupica nigricollis			1										1	1	1
Blue Whistling Thrush	Myophonus caeruleus		1	1	2						l,					1
Orange-headed Thrush	Geokichla citrina	LC	1													
Siberian Thrush	Geokichla sibirica		1													
White's Thrush	Zoothera aurea		1	1												
Grey-backed Thrush	Turdus hortulorum		1	1									1		1	
Japanese Thrush	Turdus cardis		1	1											1	
Common Blackbird	Turdus merula		1	1												1
Eyebrowed Thrush	Turdus obscurus		1	1		-										
Pale Thrush	Turdus pallidus		1	1		12										
Brown-headed Thrush	Turdus chrysolaus		1													
Dusky Thrush	Turdus eunomus	LC		1		1										
Lesser Shortwing	Brachypteryx leucophris	LC	1	1												
Siberian Rubythroat	Luscinia calliope			1												
Siberian Blue Robin	Luscinia cyane		1													
Rufous-tailed Robin	Luscinia sibilans		1	1												
Red-flanked Bluetail	Tarsiger cyanurus		1	1												
Oriental Magpie Robin	Copsychus saularis		1	1									1	1	1	1
Daurian Redstart	Phoenicurus auroreus			1	-	1									1	

Publication Series No.12 page 106

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGR
Stejneger's Stonechat	Saxicola stejnegeri			1	1	1	1	1	1		-	-		1	1	1
Grey Bush Chat	Saxicola ferreus			1	1										1	
Blue Rock Thrush	Monticola solitarius			1			1						1			
Grey-streaked Flycatcher	Muscicapa griseisticta		1				1									1.
Dark-sided Flycatcher	Muscicapa sibirica		1				č									
Asian Brown Flycatcher	Muscicapa dauurica		1	1		-	1									
Ferruginous Flycatcher	Muscicapa ferruginea		Р													
Yellow-rumped Flycatcher	Ficedula zanthopygia		P				1									
Narcissus Flycatcher	Ficedula narcissina		1	1			- <u>b</u>									
Mugimaki Flycatcher	Ficedula mugimaki		1	1			1									
Red-throated Flycatcher	Ficedula albicilla			1			1									
Blue-and-white Flycatcher	Cyanoptila cyanomelana		1				(F)									
Verditer Flycatcher	Eumyias thalassinus		1	1												
Hainan Blue Flycatcher	Cyornis hainanus		1	1												
Small Niltava	Niltava macgrigoriae		1													
Orange-bellied Leafbird	Chloropsis hardwickii	LC	1													
Fire-breasted Flowerpecker	Dicaeum ignipectus		1	1												
Scarlet-backed Flowerpecker	Dicaeum cruentatum	<i>2</i> .	1	1											1	
Mrs. Gould's Sunbird	Aethopyga gouldiae		P													
Fork-tailed Sunbird	Aethopyga christinae		1	1			1			1						
Eurasian Tree Sparrow	Passer montanus			1	1	1								1	1	1
White-rumped Munia	Lonchura striata			1			1								1	
Scaly-breasted Munia	Lonchura punctulata			1	1		1.1								1	
Porest Wagtail	Dendronanthus indicus		Р													
Grey Wagtail	Motacilla cinerea				-		1	1	1	I.						
White Wagtail	Motacilla alba					1	1	1	1	1						
Richard's Pipit	Anthus richardi			1	1	1	1							1		1
Olive-backed Pipit	Anthus hodgsoni		1	1		1	- 20							1	1	
Thinese Grosbeak	Eophona migratoria		1	1			- 31		100							-

K E'B G Publication Series No.12

page 107

About KFBG

Kadoorie Farm and Botanic Garden (KFBG) is situated in the rural New Territories, on the northern slopes of Tai Mo Shan, Hong Kong's highest mountain. Two steep spurs enclose its deep-set valley. Within KFBG are streams, woodlands, orchards, vegetable gardens, walking trails, live animal exhibits, floral exhibits, sustainable agriculture demonstration plots, art exhibits, a wild animal rescue centre, a native tree nursery, and, other conservation and education facilities.

In the post-war years, Hong Kong was flooded with destitute refugees. Many had traditional knowledge of crop production and livestock farming but no stock, others had land but no experience. They required support to rebuild their lives. The farm site at Pak Ngau Shek was established in 1956 as a base for livestock breeding and distribution, agricultural research, farmers training, public education and recreation. The barren slopes were terraced and planted with orchards and vegetable gardens. The development of the botanic garden began in 1963 and the plant conservation programme from 1972.

On 20th January, 1995, the Legislative Council of Hong Kong passed an Ordinance (Chapter 1156) incorporating KFBG as a non-profit corporation designated as a conservation and education centre. It is a unique public-private partnership, for while the KFBG Corporation is a public organisation, it is privately funded by the Kadoorie Foundation.

Since 1995, KFBG has been conducting a wide range of nature education, nature conservation and sustainable living programmes both on-site, and, throughout Hong Kong and South China.

In this time of severe global crisis KFBG raises awareness, undertakes rigorous science-based species conservation and ecosystem restoration, and offers new ways of thinking and living to respond to the world's problems. Hence, our work brings hope and improvement by focusing on nature conservation, sustainable living and holistic education that re-connects people with nature. By working together with the public, Governments, academia, NGOs and businesses, we can protect our common future.

Our mission is to harmonise our relationship with the environment. Our vision is a world in which people live sustainably with respect for each other and nature.



cological and Conservation Importance of Six Sai Kung Country Park Enclaves

English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SŴG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGR
Tristram's Bunting	Emberiza tristrami		1	1							-					
Chestnut-eared Bunting	Emberiza fucata			P	P											
Little Bunting	Emberiza pusilla				P	P										
Yellow-browed Bunting	Emberiza chrysophrys			p	p			-								
Yellow-breasted Bunting	Emberiza aureola	VU.RC			1	1		1	1							
Chestnut Bunting	Emheriza rutila		P	P												
Black-faced Bunting	Emberiza spodocephala			1	1	1		1	1				1			

ev:

'U – Vulnerable; NT – Near-threatened. These conservation status assessments are provided by IUCN.

C - Local Concern: [P]RC - [Potential] Regional Concern. Letters in parentheses () indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites, where that in general occurrence. These conservation status assessments are based on Fellowes et al. (2002).

Publication Series No.12

page 108

赤徑發展規劃建議大綱:-

- (一) 將原來按過往以 300 呎的鄉村界線圖(紅色 VE 界線修訂,於棄了很多本應可建丁屋的土地,更 為了不想像一些政府地申請丁屋,經村民商討後現 修訂之小型鄉村發展區向右邊較為平整又沒有太 多樹木的村民私有地段紳延,成為 V-Zone 在圖上 以黃色為 Proposed V-Zone 根據赤徑村村代表於 12-11-2014 向大埔地政處提交的一份最新的赤徑原 居民人口調查,本村現有原居民男丁約二佰人,而 暫時未夠十八歲,但在未來十年間以最保守估計也 有約八十人左右.因此,倘以 DPA 的鄉村屋宇規劃, 只能建約十間丁屋左右,實不足以現有需求,因此, 把該鄉村用地擴在這右邊是較為合適的.
- (二) 在圖中間以斜線之物業及空地是一間二級歷 史文物的教堂,而村民也不想在其前後左右有任何 發展,故該區本已被規劃為 V-Zone 用地,但實質 也不能使用,故放棄該區並希望列為 CA 既可保育 又可以保護該現有二級歷史文物.
- (三) 位於圖右邊以紫紅色的平也是較為平坦地建 議為 GIC 用途,該地區建議為老人中心及傷殘協會 的旅遊中心.而另一處位於後山也同樣以紫紅色的 地段也建議為 GIC 可用作建設一所環保及有机耕 種的大學.
- (四) 圖左手邊以青綠色標示, 建議為 RECREATION 康樂用地, 把赤徑村打造成為一個有特色的東西馬

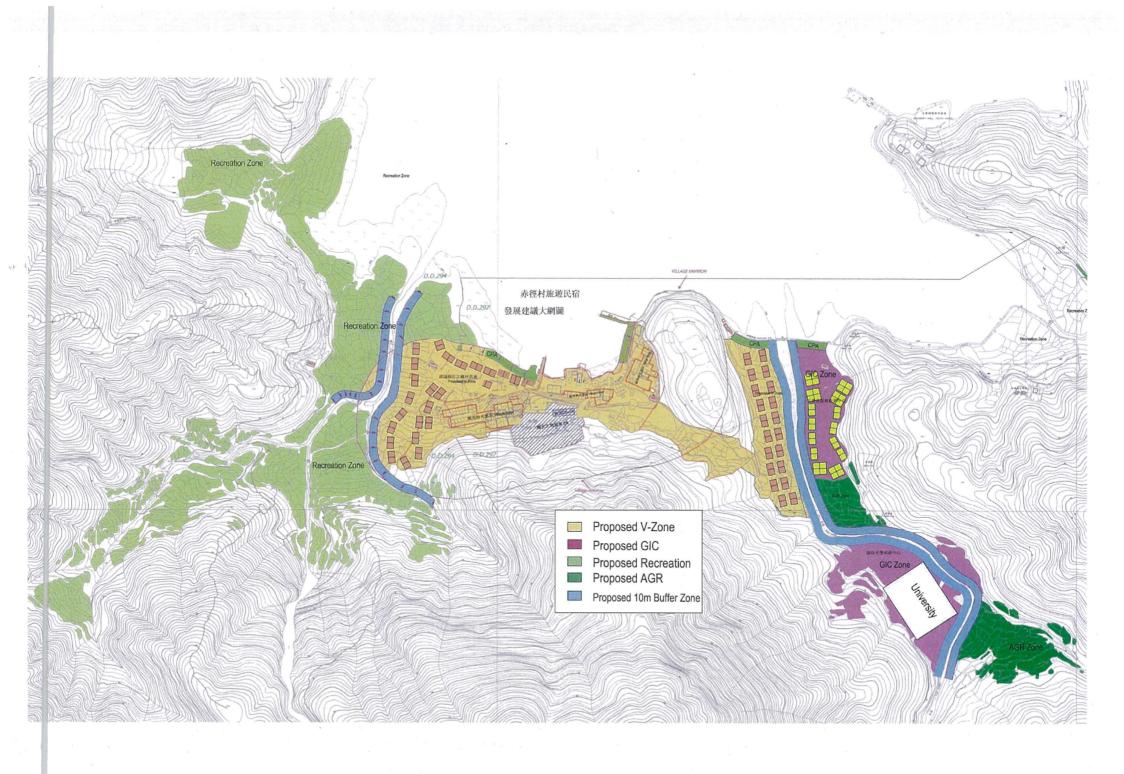
爾代夫旅遊及民宿渡假勝地.

- (五) 圖的左右兩邊均有一條溪流,為了保育,在河 流兩邊預留 10 米緩衝區,以淺藍色標示,務使河 流不受污染.
- (六) 在本村建設造中央生化污水處理系統及保留10米距離河流為非建築區.使赤徑不致於受污染.
- (七) 離海岸 10 米作為海岸保護區.
- (八) 重建現有舊屋發展為低密度酒店.

這是赤徑發展規劃的臨時建議, 詳情將待環評專家對 林木及生態評估後, 將會於 12 月底前提交一份更詳 細的發展報告書.

此致

潘麒元 赤徑村發展顧問 12-11-2014



城市規劃委員會

沙田政府合署14 樓

Attn: Mr. David Tam

事宜:委託赤徑村發展規劃顧問確認書 西貢北約赤徑村 DPA/NE-CK/1

敬啟者,

本人范房生,乃赤徑村之村代表, 茲就城規會有關本 村所草擬上述主題的發展審批圖,現以書面確認委託 潘麒元先生為本村之總規劃及發展顧問,全權代表本 村草擬,規劃及研究並授權代表本村出席一切有關本 村與任何政府部門就城市規劃委員會有關部門就制定 本村現有 DPA 及將來所發出的 OZP 圖的一切會議, 包括有權代表本村草擬及制定本村發展報告書等等, 此外,潘先生與另一位助手江智祥先生均可代本村出 席及參與任何與城規會的會議.

特此確認

花房里

范房生 赤徑村代表 14-11-2014

Appendix VII

Planning Assessments on the Development Proposals Received in the Course of Preparation of the Plan

Development Proposals

- 1. On 7.10.2014, Kadoorie Farm & Botanic Garden Corporation (KFBG) made a submission to Planning Department (PlanD) which includes a report on "Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves" and land use proposal for the Area (**Appendix V**). According to KFBG's submission, the woodlands, watercourses and riparian zones, mangroves and backshore vegetation, and riparian grasslands in the Chek Keng study area1 are of high conservation importance and should be covered by an appropriate land use zoning such as the "CA" zone under the planning system. No development incompatible with surrounding areas or the natural heritage of these areas should be authorized. From the ecological and nature conservation perspectives, due to the strong ecological and functional linkages, the Chek Keng Country Park Enclave is very much part of the Country Park system, and thus the Government should consider incorporating it, or areas of high conservation importance therein, into the Country Park.
- 2. A meeting with the Indigenous Inhabitant Representative (IIR) of Chek Keng Village and his consultants was conducted on 5.11.2014 to briefly exchange views on their preliminary land use proposals. On 13.11.2014, the IIR of Chek Keng Village submitted a preliminary land use proposal to PlanD (Appendix VI). He considers that the area of the "V" zone in the DPA Plan is insufficient to meet the Small House demand and proposes to expand the "V" zone to the east and west along the two natural streams. Other preliminary land use proposals mainly include: (i) three clusters of village hotels in the proposed "V" zone; (ii) the proposed "G/IC" zone on both sides of the eastern stream for a tourism facility for the seniors and disabled and a university specialized in environmental protection and organic farming; (iii) the proposed "Agriculture" zone along the eastern side of the eastern stream; (iv) the proposed "Recreation" zone in the western part of the Area for holiday resorts; (v) the proposed "CA" zone for the Holy Family Chapel and its immediate environs; (vi) two strips of 10m-wide "CPA" zone near the two small piers along the coast; (vii) 10m-wide buffer zone on both sides of the two natural streams; and (viii) a central sewage treatment system for the Area. The IIR indicates that he would submit a detailed report including development proposals as well as tree and ecological appraisals in due course.

¹ This also covers the area 50m from the boundary of the Country Park Enclave.

Planning Assessment

Natural Environment

- 3. Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. MacLehose Trail traverses the Area from east to west, largely dividing the lower seaside area mainly with natural coastline and features to its north from the higher landside area with a village cluster and vegetated slopes/valleys to its south.
- 4. To the north (sea side) of MacLehose Trail is mainly the lower coastal area comprising sandy/rocky shore, stream estuaries and areas covered with backshore vegetation, and further to the north are mangroves in the intertidal mudflat straddling the edge of the Area and the sea. The intertidal mudflat supports seven species of mangroves including the uncommon Heritiera littoralis (銀葉樹) and a high diversity of mangrove fauna. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Dominant flora species include the Paliurus ramosissimus (馬甲子), Hibiscus tiliaceus (黃槿) and Cerbera manghas (海杧 果). The backshore vegetation areas are ecologically linked with mangroves and provide habitats for Sesarmine Crabs². There is a protruding vegetated knoll in the eastern section of the coastal front which is flanked by a cliff along the southern side of MacLehose Trail.
- 5. It is proposed to zone the above areas as "Coastal Protection Area" ("CPA") in order to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment. It can also provide a buffer between the adjoining village area and the marine environment.
- 6. Except for the village cluster and some Government, Institution or Community (GIC) facilities, the Area to the south of MacLehose Trail mainly comprises woodlands, shrublands, grasslands and streams. The abandoned agricultural land on both sides of the two natural streams are currently mainly covered by woodland in the upper sections, whereas patches of shrubland and grassland are found in the lower sections. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species, such as Aquilaria sinensis (土沉香) and Cibotium barometz (金毛狗). Uncommon plant species such as Zanthoxylum ailanthoides (樁葉花椒) and Zoysia sinica (中華 結縷草) have also been found in the Area. The two natural streams in the eastern and western parts of the Area flow through the valleys from south to north into the sea. There is neither fung shui woodland nor Ecologically Important Stream (EIS) in the Area, and the terrestrial habitats consist largely of common native plant species. Having consulted AFCD, it is proposed to zone

² The diversity of Sesarmine Crabs is indicative to the "intactness" of the mangrove ecosystem.

the above areas as "Green Belt" ("GB") in order to provide a buffer between the village type developments and the Country Park and to conserve the natural and rural character of the Area.

7. With respect to KFBG's submission, the AFCD in general has no objection to the ecological information in it, and agrees that natural coasts, woodlands, natural streams and their riparian zones should preferably be covered with conservation zonings.

Village Development

- 8. From the nature conservation perspective, any direct or indirect impacts to the ecological and landscape resources within the Country Park Enclave and at the adjacent Sai Kung East Country Park, as well as to its natural and rural character, should be avoided.
- 9. There is a recognized village, namely Chek Keng, in the Area. Thus there is a need to designate "V" zone at suitable locations to meet the Small House demand of local villagers after delineating the areas that have to be conserved.
- 10. Given the natural environment, its ecological and landscape value coupled with its limited accessibility due to lack of vehicular access, an incremental approach for designation of "V" zone for Small House development has been adopted with an aim to confining Small House development at suitable locations so as to avoid undesirable disturbances to the natural environment and overtaxing the limited infrastructure in the Area. Discounting the surrounding environmentally sensitive areas, including coastal area, woodland and streams which should be protected, a total of about 2.24 ha of land mainly covering the existing village cluster and its adjoining area has been reserved for Small House development.

赤徑發展規劃建議大綱:-

(一) 將原來按過往以 300 呎的鄉村界線圖(紅色 VE 界線修訂,於棄了很多本應可建丁屋的土地,更 為了不想像一些政府地申請丁屋,經村民商討後現 修訂之小型鄉村發展區向右邊較為平整又沒有太 多樹木的村民私有地段紳延,成為 V-Zone 在圖上 以黃色為 Proposed V-Zone 根據赤徑村村代表於 12-11-2014 向大埔地政處提交的一份最新的赤徑原 居民人口調查,本村現有原居民男丁約二佰人,而 暫時未夠十八歲,但在未來十年間以最保守估計也 有約八十人左右.因此,倘以 DPA 的鄉村屋宇規劃, 只能建約十間丁屋左右,實不足以現有需求,因此, 把該鄉村用地擴在這右邊是較為合適的.

(二) 在圖中間以斜線之物業及空地是一間二級歷 史文物的教堂,而村民也不想在其前後左右有任何 發展,故該區本已被規劃為 V-Zone 用地,但實質 也不能使用,故放棄該區並希望列為 CA 既可保育 又可以保護該現有二級歷史文物.

(三) 位於圖右邊以紫紅色的平也是較為平坦地建 議為 GIC 用途,該地區建議為老人中心及傷殘協會 的旅遊中心 而另一處位於後山也同樣以紫紅色的 地段也建議為 GIC 可用作建設一所環保及有机耕 種的大學.

(四) 圖左手邊以青綠色標示, 建議為 RECREATION 康樂用地, 把赤徑村打造成為一個有特色的東西馬

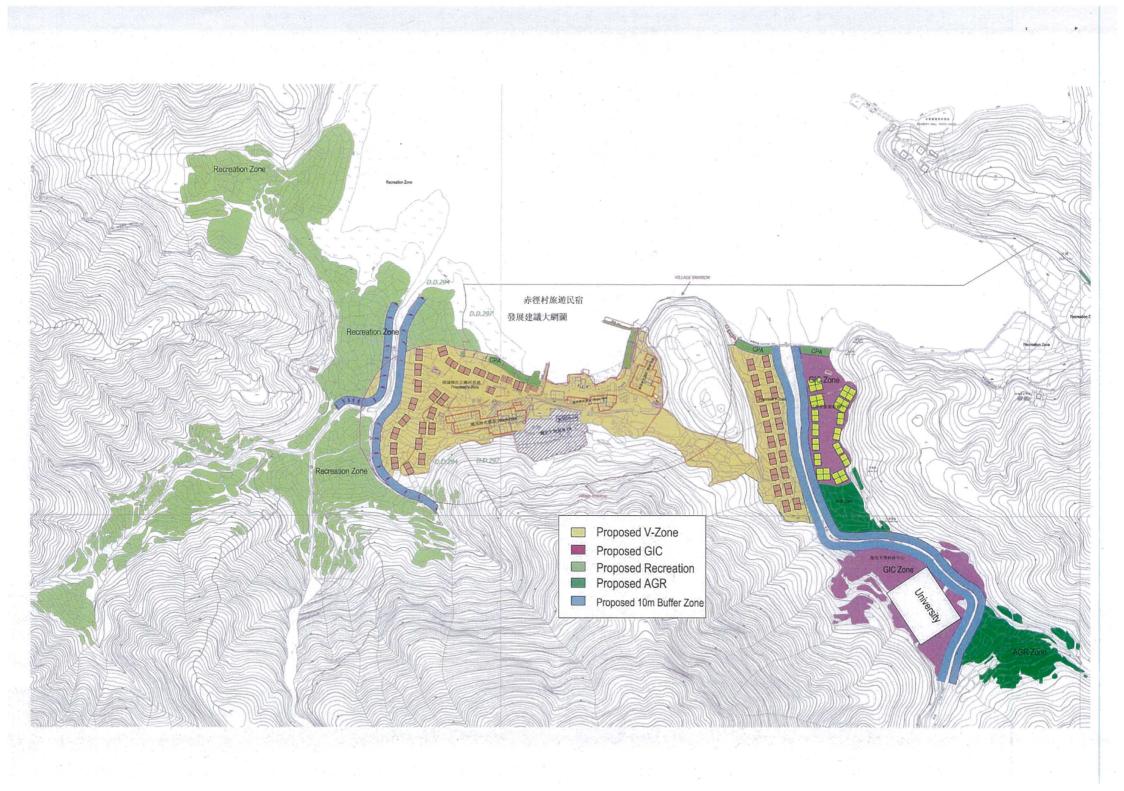
爾代夫旅遊及民宿渡假勝地.

- (五) 圖的左右兩邊均有一條溪流,為了保育,在河 流兩邊預留10米緩衝區,以淺藍色標示,務使河 流不受污染.
- (六) 在本村建設造中央生化污水處理系統及保留10米距離河流為非建築區.使赤徑不致於受污染.
- (七) 離海岸 10 米作為海岸保護區.
- (八) 重建現有舊屋發展為低密度酒店.

這是赤徑發展規劃的臨時建議, 詳情將待環評專家對 林木及生態評估後, 將會於 12 月底前提交一份更詳 細的發展報告書.

此致

潘麒元 赤徑村發展顧問 12-11-2014



城市規劃委員會

沙田政府合署 14 樓

Attn: Mr. David Tam

事宜:委託赤徑村發展規劃顧問確認書

西貢北約赤徑村 DPA/NE-CK/1

敬啟者,

本人范房生,乃赤徑村之村代表, 茲就城規會有關本 村所草擬上述主題的發展審批圖,現以書面確認委託 潘麒元先生為本村之總規劃及發展顧問,全權代表本 村草擬,規劃及研究並授權代表本村出席一切有關本 村與任何政府部門就城市規劃委員會有關部門就制定 本村現有 DPA 及將來所發出的 OZP 圖的一切會議, 包括有權代表本村草擬及制定本村發展報告書等等, 此外,潘先生與另一位助手江智祥先生均可代本村出 席及參與任何與城規會的會議.

特此確認



范房生 赤徑村代表 14-11-2014

Appendix VII

Planning Assessments on the Development Proposals Received in the Course of Preparation of the Plan

Development Proposals

1. On 7.10.2014, Kadoorie Farm & Botanic Garden Corporation (KFBG) made a submission to Planning Department (PlanD) which includes a report on "Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves" and land use proposal for the Area (Appendix V). According to KFBG's submission, the woodlands, watercourses and riparian zones, mangroves and backshore vegetation, and riparian grasslands in the Chek Keng study area 1 are of high conservation importance and should be covered by an appropriate land use zoning such as the "CA" zone under the planning system. No development incompatible with surrounding areas or the natural heritage of these areas should be authorized. From the ecological and nature conservation perspectives, due to the strong ecological and functional linkages, the Chek Keng Country Park Enclave is very much part of the Country Park system, and thus the Government should consider incorporating it, or areas of high conservation importance therein, into the Country Park.

A meeting with the Indigenous Inhabitant Representative (IIR) of Chek Keng 2. Village and his consultants was conducted on 5.11.2014 to briefly exchange views on their preliminary land use proposals. On 13.11.2014, the IIR of Chek Keng Village submitted a preliminary land use proposal to PlanD (Appendix VI). He considers that the area of the "V" zone in the DPA Plan is insufficient to meet the Small House demand and proposes to expand the "V" zone to the east and west along the two natural streams. Other preliminary land use proposals mainly include: (i) three clusters of village hotels in the proposed "V" zone; (ii) the proposed "G/IC" zone on both sides of the eastern stream for a tourism facility for the seniors and disabled and a university specialized in environmental protection and organic farming; (iii) the proposed "Agriculture" zone along the eastern side of the eastern stream; (iv) the proposed "Recreation" zone in the western part of the Area for holiday resorts; (v) the proposed "CA" zone for the Holy Family Chapel and its immediate environs; (vi) two strips of 10m-wide "CPA" zone near the two small piers along the coast; (vii) 10m-wide buffer zone on both sides of the two natural streams; and (viii) a central sewage treatment system for the Area. The IIR indicates that he would submit a detailed report including development proposals as well as tree and ecological appraisals in due course.

¹ This also covers the area 50m from the boundary of the Country Park Enclave.

Planning Assessment

Natural Environment

4.

- 3. Surrounded by the Sai Kung East Country Park on three sides and comprising mainly woodlands, shrublands, grasslands, streams, sandy/rocky shore with cliff, backshore vegetation and mangroves, the Area forms part of the wider natural environment of the Country Park. MacLehose Trail traverses the Area from east to west, largely dividing the lower seaside area mainly with natural coastline and features to its north from the higher landside area with a village cluster and vegetated slopes/valleys to its south.
 - To the north (sea side) of MacLehose Trail is mainly the lower coastal area comprising sandy/rocky shore, stream estuaries and areas covered with backshore vegetation, and further to the north are mangroves in the intertidal mudflat straddling the edge of the Area and the sea. The intertidal mudflat supports seven species of mangroves including the uncommon *Heritiera littoralis* (銀葉樹) and a high diversity of mangrove fauna. Backshore vegetation largely extends from the intertidal mudflat southward to the MacLehose Trail and westward along the coast, forming a transition between the mangroves and the woodland. Dominant flora species include the *Paliurus ramosissimus* (馬甲子), *Hibiscus tiliaceus* (黃槿) and *Cerbera manghas* (海杧 果). The backshore vegetation areas are ecologically linked with mangroves and provide habitats for Sesarmine Crabs². There is a protruding vegetated knoll in the eastern section of the coastal front which is flanked by a cliff along the southern side of MacLehose Trail.
- 5. It is proposed to zone the above areas as "Coastal Protection Area" ("CPA") in order to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment. It can also provide a buffer between the adjoining village area and the marine environment.
- 6. Except for the village cluster and some Government, Institution or Community (GIC) facilities, the Area to the south of MacLehose Trail mainly comprises woodlands, shrublands, grasslands and streams. The abandoned agricultural land on both sides of the two natural streams are currently mainly covered by woodland in the upper sections, whereas patches of shrubland and grassland are found in the lower sections. The woodland is ecologically-linked to the natural habitats in the Country Park and supports protected plant species, such as *Aquilaria sinensis* (土沉香) and *Cibotium barometz* (金毛狗). Uncommon plant species such as *Zanthoxylum ailanthoides* (椿葉花椒) and *Zoysia sinica* (中華 結縷草) have also been found in the Area. The two natural streams in the eastern and western parts of the Area flow through the valleys from south to north into the sea. There is neither *fung shui* woodland nor Ecologically Important Stream (EIS) in the Area, and the terrestrial habitats consist largely of common native plant species. Having consulted AFCD, it is proposed to zone

² The diversity of Sesarmine Crabs is indicative to the "intactness" of the mangrove ecosystem.

the above areas as "Green Belt" ("GB") in order to provide a buffer between the village type developments and the Country Park and to conserve the natural and rural character of the Area.

7. With respect to KFBG's submission, the AFCD in general has no objection to the ecological information in it, and agrees that natural coasts, woodlands, natural streams and their riparian zones should preferably be covered with conservation zonings.

Village Development

- 8. From the nature conservation perspective, any direct or indirect impacts to the ecological and landscape resources within the Country Park Enclave and at the adjacent Sai Kung East Country Park, as well as to its natural and rural character, should be avoided.
- 9. There is a recognized village, namely Chek Keng, in the Area. Thus there is a need to designate "V" zone at suitable locations to meet the Small House demand of local villagers after delineating the areas that have to be conserved.
- 10. Given the natural environment, its ecological and landscape value coupled with its limited accessibility due to lack of vehicular access, an incremental approach for designation of "V" zone for Small House development has been adopted with an aim to confining Small House development at suitable locations so as to avoid undesirable disturbances to the natural environment and overtaxing the limited infrastructure in the Area. Discounting the surrounding environmentally sensitive areas, including coastal area, woodland and streams which should be protected, a total of about 2.24 ha of land mainly covering the existing village cluster and its adjoining area has been reserved for Small House development.

Extract of Draft Minutes of the Meeting of Environment, Housing and Works Committee of the Tai Po District Council held on 14.1.2015 Annex VI

II. 《赤徑分區計劃大綱草圖編號 S/NE-CK/B》 (大埔區議會文件 EHW 10/2015 號)

4. <u>主席</u>歡迎規劃署高級城市規劃師楊倩女士及城市規劃師譚大偉先生就是 項議程出席會議。

5. <u>楊倩女士</u>介紹上述文件。

 主席表示他於會前收到西貢北約鄉事委員會("西貢北鄉委會")主席鄧光 榮先生的通知,得悉西貢北鄉委會一致反對《赤徑分區計劃大綱草圖編號 S/NE-CK/B》。他請鄧光榮先生補充。

7. <u>鄧光榮先生</u>表示他已經與赤徑村村代表及村民溝通,他們認為草圖內"鄉村式發展"地帶只涵蓋現時的村屋範圍,不足以照顧該村日後的需要。他指赤徑村曾有千多人居住,規劃署以現時只有 30 人在該村居住為理由而劃細"鄉村式發展"地帶是思慮不周,未有顧及該村的長遠發展。他續指西貢北鄉委會會去信城市規劃委員會("城規會")反對上述分區計劃大綱草圖。

8. 委員的意見和提問如下:

- (i) 有委員指赤徑村交通不便,配套亦不足,村民須出外謀生,致令人 口縮減。他指 1979年訂立的《郊野公園條例》原意是要保障村民 的生活和避免郊野公園受到破壞,該條例訂明村民可在郊野公園經 營士多或作其他發展,以謀取生計。他續指政府應成立保育基金, 以推動保育。此外,他認為規劃署應根據地政總署於 1972年定下 的 "認可鄉村範圍"(即環繞某認可鄉村 300 呎的地方)劃定"鄉村 式發展"地帶。他總結,大埔鄉事委員會("大埔鄉委會")支持西 貢北鄉委會的決定,反對上述分區計劃大綱草圖。
- (ii) 有委員詢問,如村民安裝適當的排污設施,會否獲准於"海岸保護區"地帶及"認可鄉村範圍"重疊的土地上興建新界豁免管制屋 字。
- (iii) 有委員請規劃署與西貢北鄉委會及赤徑村村民溝通,以取得共識。
- (iv) 有委員認為上述分區計劃大綱草圖說明書第 9.1.7 項對排污的規定 不合理,村民將難以獲准興建新界豁免管制屋宇。
- 9. <u>楊倩女士</u>回應如下:
 - (i) 根據上述分區計劃大綱草圖,在"海岸保護區"地帶重建新界豁免 管制屋宇須向城規會提交規劃申請。

- (ii) 上述說明書第 9.1.7 項有關 "鄉村式發展" 地帶的規定是現時的行政安排,適用於村民向地政總署進行有關興建新界豁免管制屋宇的申請。
- (iii) 根據 2010 至 2011 年度的《施政報告》,多幅毗鄰郊野公園而未有 法定規劃的土地會納入郊野公園範圍或透過法定規劃程序確立合 適的土地用途。赤徑地區為"郊野公園不包括的土地",規劃署現 正透過法定規劃程序確立其用途。

10. 有委員表示,大埔區議會文件 EHW 10/2015 號第 4.1 段列明"該區毗鄰西 貢東郊野公園,是該郊野公園的自然系統不可或缺的一部分",與規劃署的回 覆說赤徑地區為"郊野公園不包括土地"不同。

 有委員詢問,如村民安裝獲環境保護署("環保署")及水務署認可的排污 設施,會否獲城規會批准於"海岸保護區"地帶及"認可鄉村範圍"重疊的土 地上興建新界豁免管制屋宇。

 12. <u>楊倩女士</u>回應,排污設施屬環保署的職權範圍,當有村民向城規會申請在 "海岸保護區"地帶重建新界豁免管制屋宇,規劃署會徵詢有關部門(包括環保 署)的意見,然後再向城規會反映這些意見,以供該會考慮及作出決定。

13. <u>袁潔貞女士</u>解釋,由城規會根據《城市規劃條例》就各土地用途地帶所訂 定的"鄉村式發展"地帶與地政總署劃定的"認可鄉村範圍"不同。"認可鄉 村範圍"是指於 1972 年 12 月 1 日實施小型屋宇政策之前,在該等鄉村興建的 最後一間鄉村屋的邊沿起計的 300 呎範圍。在《赤徑分區計劃大綱草圖編號 S/NE-CK/B》內, "鄉村式發展"地帶重建新界豁免管制屋宇是經常准許的。 對於在"認可鄉村範圍"內但位處"鄉村式發展"用途區外的新界豁免管制屋 宇重建申請,是否須向城規會申請規劃許可的問題,須視乎有關申請地點實際 位處的土地用途地帶而定,例如在海岸保護區內的新界豁免管制屋宇重建申 請,便須申請規劃許可。

14. <u>楊倩女士</u>重申,在"鄉村式發展"地帶內新界豁免管制屋宇是經常准許的 用途,無須向城規會申請;在"海岸保護區"地帶內只有重建新界豁免管制屋 宇可向城規會申請。

15. <u>主席</u>總結,本委員會尊重西貢北鄉委會的決定,反對《赤徑分區計劃大綱 草圖編號 S/NE-CK/B》。

Extract of Draft Minutes of the Meeting of Environment, Housing and Works Committee of the Tai Po District Council held on 14.1.2015

(Translation)

II. Draft Chek Keng Outline Zoning Plan No. S/NE-CK/B (TPDC Paper No. EHW 10/2015)

- 4. The Chairman welcomed Ms. YANG Ching, Channy (STP/CPE2) and Mr. TAM Tai Wai, David (TP/CPE1) of the Planning Department to attend the meeting on this agenda item.
- 5. Ms YANG introduced the above-mentioned document.
- 6. The chairperson indicated that he was notified by Mr. TANG Kwong-wing of the Sai Kung North Rural Committee (SKNRC) before the meeting that the SKNRC objected to the Draft Chek Keng Outline Zoning Plan (OZP) No. S/NE-CK/B unanimously. He invited Mr. TANG Kwong-wing to elaborate on this.
- 7. Mr. TANG Kwong-wing indicated that he had liaised with the village representative and villagers of Chek Keng Village. They opined that the size of the "Village Type Development" ("V") zone was not enough to cater for the future development. He added that there were once over 1 000 persons living in Chek Keng Village. The Planning Department (PlanD) reduced the size of the "V" zone for Chek Keng Village on the grounds that there were only 30 persons living in the village now. This showed that the PlanD lacked thorough consideration and failed to cater for the long-term development of the village. Moreover, he indicated that the SKNRC would write to the Town Planning Board (TPB) to raise objection against the Draft Chek Keng OZP No. S/NE-CK/B.

8.

Views and questions raised by members were as follows:--

(i) A member opined that it was due to the inaccessibility of Chek Keng Village and its lack of supporting facilities that the villagers left the village for a living, resulting in the decrease in population. He pointed out that the original intention of enacting the Country Parks Ordinance in 1979 was to safeguard the livelihood of villagers and protect the country parks from damages. The Country Parks Ordinance also stipulated that villagers could operate provision stores or carry out other developments in the country parks to make a living. He continued to say that the Government should set up a conservation fund to promote conservation. Furthermore, he opined that the PlanD should designate the "V" zone in accordance with the "Village Environ" ("VE") (i.e. the area within a radius of 300 feet from a recognised village) set by the Lands Department (LandsD) in 1972. He concluded that the Tai Po Rural Committee (TPRC) supported the decision of the SKNRC and objected to the subject OZP.

- (ii) A member asked if applications for building New Territories Exempted Houses (NTEHs) on the overlapping area of the "Coastal Protection Area" ("CPA") zone and the "VE" would be approved if the villagers could provide appropriate sewage disposal facilities.
- (iii) A member urged the PlanD to liaise with the SKNRC and the villagers of Chek Keng Village for a consensus.
- (iv) A member opined that the requirement on sewage disposal stipulated in paragraph 9.1.7 of the Explanatory Statement (ES) of the draft OZP was unreasonable. He opined that it would be difficult for the villagers to obtain approval for building NTEHs under the requirement.
- 9. Ms YANG responded as follows:
 - (i) Under the subject draft OZP, planning applications to the TPB were required for the redevelopment of NTEHs in the "CPA" zone.
 - (ii) The requirement on the "V" zone specified in paragraph 9.1.7 of the ES of the Draft OZP was the current administrative arrangement, applicable to all NTEH applications submitted to the LandsD.
 - (iii) According to the 2010-11 Policy Address, a number of areas adjacent to country parks but not yet covered by statutory plans would either be incorporated into country parks, or have the appropriate land uses established through statutory planning. Chek Keng area was one of the Country Park enclaves, and the Planning Department was establishing its land uses via statutory planning process.
- A Member said that the PlanD's response was inconsistent with what was said in the above document which stated in paragraph 4.1 that Chek Keng formed an integral part of the natural system of the adjoining Sai Kung East Country Park.
- 11. A Member asked whether NTEH developments on land in the "CPA" zone overlapping with the "VE" would be permitted on application to the TPB, if sewage disposal facilities approved by the Environmental Protection Department (EPD) and the Water Supplies Department could be provided.

C/EHW-M1(14.1.2015) - ENG PARAS. 6-15.DOCX

- 12. Ms YANG responded that sewage disposal facilities were under the purview of the EPD. Upon submission of an application for NTEH redevelopment in the "CPA" zone by a villager to the TPB, the PlanD would consult the relevant departments (including the EPD). Their views would be conveyed to the TPB for its consideration and decision.
- 13. Ms YUEN Kit-ching explained that a "V" zone established by the TPB under the Town Planning Ordinance was different from a "VE" delineated by the Lands Department. A "VE" referred to the area within a radius of 300 feet from the last village house built before 1 December 1972, when the Small House Policy took effect. Within the "V" zone of the draft Chek Keng OZP No. S/NE-CK/B, the redevelopment of NTEH was always permitted. With respect to the question whether NTEH REdevelopment in areas within 'VE' but outside "V" zone would require application to the TPB for approval, it would depend on the land use zoning the site would fall in. For example, redevelopment of a NTEH within the "CPA" zone would require permission from the TPB.
 - 14. Ms YANG reiterated that NTEH developments in the "V" zone were always permitted and no application to the TPB was required. However, in the "CPA" zone, only the redevelopment of NTEHs might be permitted on application to the TPB.
 - 15. The Chairman concluded that the Committee respected the decision of the SKNRC, and opposed to the Draft Chek Keng OZP No. S/NE-CK/B.

Submissions from Kadoorie Farm & Botanic Garden Corporation dated 27.1.2015 and 4.2.2015

General

In general we do not agree that the V zone should be further increased in size, and the V zone should not encroach ecologically sensitive areas.

Chek Keng

We consider that the riparian zones of the two stream systems there must be protected with GB(1)/CA.

Based on our report (

http://www.kfbg.org.hk/content/27/27/2/2013%20KFBG%20Sai%20Kung%20 <u>CP%20enclaves%20report%20(pdf).pdf</u>), the stream systems there are important habitats for plant, fish and bird species of conservation importance; they are described below.

The shrub *Diospyros vaccinioides* was recorded along the stream systems in Chek Keng. This species is classified as **Globally Critically Endangered** on the IUCN Red List of Threatened Species (

http://www.iucnredlist.org/details/34784/0). According to the IUCN Red List, the wild population of *D. vaccinioides* has been heavily-exploited and collected as an ornamental species in Taiwan, leading to the complete absence of mature trees in the wild. In Hong Kong, it has also recently been a target of poacher (http://orientaldaily.on.cc/cnt/news/20141211/00176_055.html); because of this, the exact locations of these individuals cannot be provided.

A rare goby, *Stiphodon multisquamus*, was found in the two main watercourses at Chek Keng. It is a species considered to be of **Global Conservation Concern** by Fellowes *et al.* (2002) and Nip (2010), and is considered to be **Endangered in China** (Wu and Zhong 2008). It is also considered to be a **Key Freshwater Fish Species of Conservation Concern by the AFCD** (<u>http://www.epd.gov.hk/epd/english/boards/advisory_council/files/ncsc_paper0</u> <u>1_2011.pdf</u>). According to the Hong Kong Freshwater Fish Red List (prepared by the AFCD and KFBG for the Biodiversity Strategy and Action Plan), it is also considered to be **Endangered in Hong Kong**. This is an amphidromous species with a complex life cycle; in order to protect this species, the stream-ocean corridor should not be blocked; stream flow and the stream bed should remain natural (e.g., stream flow should not be further reduced); simply speaking, the whole stream should be preserved.

During the site visit conducted in June 2012 at Chek Keng, the riparian zones

of the streams were found to contain many burrows of Sesarmine Crabs. Certain species were also recorded far from the shore, including one considered to be less commonly found in Hong Kong – *Chiromantes haematocheir*. According to Kwok and Tang (2005), only a healthy mangrove ecosystem can contain enough habitat heterogeneity for a diverse Sesarmine Crab community. The observations made during this site visit indicate that Chek Keng, like its adjacent areas, also contains a diverse Sesarmine Crab community.

An uncommon bird species, Brown Fish Owl, is believed to use the streams (and their riparian zones) in Chek Keng as foraging areas.

A freshwater shrimp, *Macrobrachium meridionalis*, an amphidromous species, was also discovered in a stream at Chek Keng. This species is not common in Hong Kong and is of local conservation interest (KFBG Staff Pers. Obs.).

A shrimp with restricted distribution, *Palaemon debilis*, which only appears in estuaries along the eastern coast of Hong Kong, was found at the mouths of both streams at Chek Keng. In China, this species has only been reported from Hainan Island (Li *et al* . 2007). Thus Hong Kong is the second site in China where this species is known to occur and is also the only known site currently where this species can be found on the Mainland. In view of its restricted distribution, we consider that *P. debilis* is of conservation concern.

Since these streams support species of global, regional and local conservation importance/ interest, we consider that they should be better protected from pollution and disturbance. Only by providing a more secure zoning (GB(1)/CA) along the riparian zones, in which no development would be allowed (e.g., Small House is not in Column 2), can achieve this.

Below please see some basic information regarding the width of riparian buffer.

Riparian zone is important in protecting the integrity of the stream system, and the general functions are listed below:

- Safeguard the water quality of the stream (i.e., physically and biologically trap pollutants and sediments through riparian vegetation).

- Provide wildlife habitats and refuges (e.g., herpetofauna, terrestrial insects especially those with aquatic larval stage, crabs).

- Function as wildlife corridors (e.g., mammals).

- Moderate stream temperature (i.e., shading from riparian vegetation) – important for stream communities particularly fish and amphibian.

- Stabilize stream bank (vegetation can help stabilizing the bank).

- Attenuate flood risk (intercept overland flow and reduce flood peak, acting as a sponge to absorb water).

- Provide organic nutrient input (leaf detritus provides energy sources for stream)

Riparian zone itself can also be important habitat for many organisms. For instance, studies in North America have recommended the use of development buffers around streams to protect riparian habitat for freshwater turtles. The proposed buffer width varies according to site and species: proposed values from North America include 150m (Bodie 2001), 275m (Burke & Gibbons 1995) and 123 – 287m (Semlitsch & Bodie 2003). In Hong Kong, a study on the Hong Kong Newt has discovered that this amphibian could appear over 400 m from the streamside (Fu 2010), and another study on the Three-banded Box Terrapin has found that the turtle could appear about 50 m from the stream (Cheung 2007), although KFBG's turtle expert (Paul Crow) considers that it can move further away (Paul Crow Pers. Comm.).

Other reviews of the optimum width of stream buffers for a diversity of wildlife

have recommended buffer widths of approximately 30m to 195m (Robins 2002) and approximately 18 to 33 meters (Klapproth & Johnson 2001). For trapping and removing pollutants, recommended buffers include approximately 22m (Robins 2002) and 30m (Haycock & Muscutt 1995). A 10m wide buffer zone on either side of a stream to ensure that pollution of the stream course is avoided has also been recommended in some other studies (e.g. Gilliam *et al* . 2001, Harris and Foster 2001, Uusi-Kamppa *et al*. (2001)). Thus, based on these, it is usually recommended to protect the stream corridor by designating a buffer zone ranging from 10 to 30 m on each side of the stream.

In view of the above and the ecological importance of the stream systems in Yung Shue O and Chek Keng as stated in below emails, we recommend that these two stream systems should also be protected by riparian buffers of 10 - 30 m in width.

Best Regards,

Tony Nip

Senior Ecologist

Ecological Advisory Programme

Kadoorie Farm and Botanic Garden Corporation

Lam Kam Rd., Tai Po, N.T., Hong Kong.

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ECOLOGICAL AND CONSERVATION IMPORTANCE OF SIX SAI KUNG COUNTRY PARK ENCLAVES

October 2013 (1st Edition)

Number 12

The full report is at Appendix V of the Town Planning Board (TPB) Paper No. 9808 (considered by the TPB on 19.12.2014) Diospyros vaccinioides (Small Persimmon)

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- Partners
 - Partners and Technical Support
 - <u>Contributors</u>
- <u>Sponsors</u>
- <u>Resources</u>
 - Key Documents
 - Categories and Criteria
 - <u>Classification Schemes</u>
 - Data Organization
 - Spatial Data Download
 - Information Sources and Quality
 - Assessment Process
 - <u>Red List Training</u>
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 - SIS News and Updates

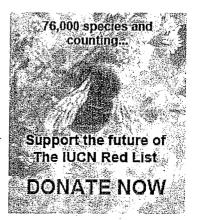


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Diospyros vaccinioides (Small Persimmon)

Diospyros vaccinioides

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- Summary
- Classification Schemes
- <u>Images & External Links</u>
- <u>Bibliography</u>
- Full Account

<u>Taxonomy</u> <u>Assessment Information</u> <u>Geographic Range</u>

Habitat and Ecology Threats

Wiew Printer Friendly

Taxonomy [top]

KingdomPhylumClassOrderFamilyPLANTAETRACHEOPHYTAMAGNOLIOPSIDAEBENALESEBENACEAE

Scientific Name: Diospyros vaccinioides

Species Authority:Lindl.

Common Name(s):

English-Small Persimmon

Synonym(s): Diospyros vaccinioides Lindl. subspecies oblongata Merr. & Chun Rospidios vaccinioides (Lindl.) A.DC.

Assessment Information [top]

Red List Category & Criteria: Critically Endangered A1ad+2bd, B1+2abc, C1+2ab, D ver 2.3Year Published:1998Date Assessed:1998-01-01Annotations:Needs updatingAssessor(s):Lu, S.Y. & Pan, F.J.

http://www.iucnredlist.org/details/34784/0

Geographic Range [top]

Range Description:	A population of unproductive individuals is believed to exist on a wooded hillside in Fengkang. Populations are also recorded from Chuhai and Huiyang in China, and Hong Kong.
Countries:	Native: China (Guangdong); Hong Kong; Taiwan, Province of China
Range Map:	Click here to open the map viewer and explore range.

Habitat and Ecology [top]

Systems: Terrestrial

Threats [top]

Major A heavily-exploited ornamental species. Overcollecting in Taiwan, has led to the Threat(s): complete absence of mature trees in the wild.

Lu, S.Y. & Pan, F.J. 1998. Diospyros vaccinioides. The IUCN Red List of **Citation:** Threatened Species. Version 2014.3. < www.iucnredlist.org >. Downloaded on 18 February 2015. Disclaimer: To make use of this information, please check the <<u>Terms of Use</u>>.

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NCSC 1/2011

For Discussion on 26 May 2011

Advisory Council on the Environment Nature Conservation Subcommittee

The Proposed Action Plan for the Conservation of Freshwater Fish in Hong Kong

Purpose -

This paper briefs Members on the proposed action plan for the conservation of freshwater fish in Hong Kong.

Background

2. Freshwater fish refers to species that occur in freshwater environments either occasionally or permanently. They comprise primary freshwater species, brackish species, diadromous species and marine vagrants.

3. Primary freshwater fish are strictly confined to freshwater environments in their entire life cycle. Brackish species usually occur in estuaries but visit freshwater environments for food and shelter during low tide. Marine vagrants are species which spawn and spend most of their lives in coastal or oceanic waters, but may venture into freshwater environments occasionally. Diadromous fish migrate between marine and freshwater environments in different stages of their lives.

4. The Agriculture, Fisheries and Conservation Department (AFCD) has initiated a biodiversity survey programme since 2002 for the purpose of collecting essential and up-to-date information on the diversity, abundance and distribution of the flora and fauna of Hong Kong. The programme includes a territory-wide survey on the diversity and distribution of freshwater fish of Hong Kong. The findings are being used for drawing up an action plan for the freshwater fish so as to enhance their conservation.

Diversity and Distribution

5. Hong Kong is a small territory at the edge of the northern tropical zone with a total land area of about 1095km². The local landscape is dominated by hills and ravines interlaced with hundreds of fast flowing rocky streams. Long and meandering rivers are limited in number and confined to the floodplains of the northern and northwestern New Territories. Although Hong Kong is small in geographical coverage, it is surprisingly rich in freshwater fish species. There are 185 species of freshwater fish recorded in Hong Kong, accounting for about 18 % of the over 1000 freshwater fish species occurring in China. This is mainly attributed to the presence of a wide range of habitats providing suitable foraging grounds and breeding sites for them.

6. The territory-wide surveys conducted by AFCD during the period from 2002 to 2010 provided essential and updated information on the distribution and relative abundance of the

freshwater fish. Since the commencement of the survey, about 800 numbers of surveys were conducted at 250 localities recording a total of 133 freshwater fish species. The conservation status of all the 185 freshwater fish species was reviewed. Some species such as Hong Kong Paradise Fish and Rice Fish which had once been thought to be rare were found to be more widespread and abundant. However, some species are still considered to be of restricted distribution throughout the territory, like Rose Bitterlings which requires the presence of a particular species of freshwater mussel, *Anodonta woodiana*, for reproduction.

Species of Conservation Concern

7. Amongst the 185 species of freshwater fish recorded in Hong Kong, 21 of them were considered to have conservation concern based on our survey results and literature records (Annex 1). They all have restricted distribution in the territories. Among the 21 species of conservation concern, 16 are primary freshwater species while the remaining five are estuarine fishes. Four of the primary freshwater species are of unknown distribution and could not be found in any of our past surveys. These include Chinese Spiny Loach, Garnet Minnow, White Cloud Mountain Minnow and White-line Chest-sculptured Sisoridfish.

8. Garnet Minnow and White Cloud Mountain Minnow were once reported in streams in the northern New Territories but have not been recorded for decades. The last record of Chinese Spiny Loach dated back to 1990 with a single observational record at Sai Kung which may be an occasional record. The latest record of White-line Chest-sculptured Sisoridfish dated back to 2001, which was found at Tai Po. The local status of these species awaits further confirmation.

Sites of Conservation Importance

9. In addition to providing information on freshwater species of conservation concern, the survey findings also help in identification of sites of conservation importance to freshwater fish where a total of 37 sites were identified. These sites are either harbouring freshwater fish species of conservation concern and/or characterized by high species diversity of freshwater fish. These sites should be properly protected or managed for conservation of their freshwater fish communities. A list of sites of conservation importance for freshwater fish is given at Annex 2 and a location map of these sites is attached at Annex 3.

Threats

10. Freshwater fish are declining rapidly in population numbers and diversity around the world. Threats such as habitat loss, habitat degradation, pollution, climate change, over-harvesting and the presence of exotic species may endanger the survival of freshwater fish and contribute to their decline.

Conservation Action Plan

11. According to the survey findings and analysis done on native freshwater fish, we are drawing up an action plan for the freshwater fish of conservation concern. The action plan comprises various components including habitat protection, site monitoring, species action

plan, studies as well as education and publicity in order to provide a sustainable long-term conservation programme for native freshwater fish.

Habitat Protection and Enhancement

12. Many of the identified sites of conservation importance for freshwater fish fall either exclusively or partially within protected areas such as Country Parks, Sites of Special Scientific Interest (SSSI) and Conservation Areas. These areas are being protected from incompatible development and human activities. For example, Lin Ma Hang, one of the two known localities of Chinese Rasbora, was designated as SSSI in 2007. Tai Ho, a breeding site of the rare Ayu and a site of high diversity of fish species, was designated as SSSI in 1999.

13. Apart from rendering streams with suitable zonings for protection, streams with freshwater fish of conservation concern or a high diversity of fish species may also be listed as Ecologically Important Stream (EIS). Listing of a stream as EIS would help to alert project proponents, both from government departments and private sectors, the ecological importance of the concerned stream. This would facilitate project proponents to design and implement their projects in an environmentally responsible manner with appropriate mitigation measures to avoid or minimize any adverse impacts so caused.

14. To maintain freshwater fish of conservation concern with viable populations throughout the territory, we have enhanced/rehabilitated some abandoned wetlands in protected areas as suitable habitats for their introduction. For example, a piece of abandoned agricultural land at Tai Tong within Tai Lam Country Park was enhanced as a pond for introduction of Chinese Rasbora; an overgrown marsh within Tai Tam Country Park was rehabilitated for introduction of Beijiang Thick-lipped Barb.

Monitoring of Sites of Conservation Importance

15. A total of 37 sites were identified having conservation importance to freshwater fish. These sites are visited regularly for monitoring of their general conditions as habitats for the species of conservation concern and/or the diverse fish community therein. During monitoring visits, special attention would be paid to occurrence of any environmental changes and irregularities which may affect the fish community and the quality of its habitats. The species richness and abundance of freshwater fish are also recorded during the visits to these sites.

Species Action Plan

16. To safeguard the freshwater fish species of the highest conservation concern, species action plans are devised for meeting their specific conservation needs. In general, a species action plan includes an inventory of biological information, an assessment on conservation status, and the conservation objectives for a target species as well as implementation schedule. At present, draft species action plans have been developed for Rose Bitterling, Chinese Rasbora and Taiwan Lesser Bream. The major conservation efforts for these species include population monitoring, captive breeding, exploration of suitable translocation sites and trial establishment of captive bred population at translocation sites. Consultation with relevant

experts/organizations on the proposed species conservation measures would be arranged prior to implementation.

Studies

17. Although freshwater fish could be found in many water bodies throughout the territory, fish communities at different localities are probably segregated from each other physically for a long time, which may lead to genetic variation among different fish populations of the same species. In order to better understand the population structure of freshwater fish of Hong Kong, AFCD is in collaboration with the Chinese University of Hong Kong to carry out a study on the genetics of selected native freshwater fish species throughout the territory. For proper maintenance on the sustainability of freshwater fish species, conserving their genetic diversity and abundance are of equal importance. The result of this study would provide further insights on research and conservation work on freshwater fish of Hong Kong in future.

Education and Publicity

18. Public education plays an important role in conservation. Various educational and publicity programmes have been held on the conservation of freshwater fish. For example, AFCD and RTHK produced a TV programme introducing the Hong Kong freshwater fish in 2003. In 2006, AFCD and Ocean Park held a native species educational display programme which attracted a considerable number of visitors. Up-to-date, part of the display programme is still ongoing in Ocean Park in the Chinese Sturgeon Aquarium. Besides, in mid 2010, AFCD jointly organized with LCSD an exhibition on the diverse flora and fauna of Hong Kong including some freshwater fish of conservation concern at the Science Museum. In addition, AFCD and the Friends of Country Parks published two field guides on freshwater fish in 2002 and 2004 respectively to raise public awareness about the importance of freshwater fish conservation. Further educational and publicity programmes would be arranged with relevant parties to enhance public understanding of our local freshwater fish diversity and arouse public awareness of the conservation needs of our freshwater fish community.

Advice Sought

19. Members are invited to note and comment on the proposed action plan for the conservation of freshwater fish of Hong Kong.

4

Agriculture, Fisheries and Conservation Department April 2011

List of Freshwater Fish Species of Conservation Concern in Hong Kong

Scienticific Name	Chinese Name	Common Name	Conservation Status*	Remarks:
Acrossocheilus beijiangensis	北江光唇魚	Beijiang Thick-lipped Barb	Global Concern	• Recorded at Lantau and Hong Kong Island
Acrossocheilus . parallens	側條光唇魚		Global Concern	 Recorded at Hong Kong Island, Tuen Mun and Tai Po
Anguilla marmorata	花鰻鱺	Giant Mottled Eel	Global Concern	 China Red Data Book: Endangered China Species Red List: Endangered List of State Key Protected Wildlife in China: Class II Protected Animal Recorded at Lantau, Sai Kung and Tsuen Wan
Aphyocypris lini	林氏細鯽	Garnet Minnow		 China Red Data Book: Endangered China Species Red List: Extinct in the wild Last recorded at Tai Mo Shan in 1985
Awaous melanocephalus	黑首阿胡鰕 虎魚	Large Snout Goby	Regional Concern	 Locally restricted to Hong Kong Island and Lantau
Cobitis sinensis	中華鰍	Chinese Spiny Loach		 Last recorded at Sai Kung in 1990
Glyptothorax pallozonum	白線紋胸鮡	White-line Chest-sculptured Sisoridfish	Global Concern	♦ Last recorded at Tai Po in 2001
Macropodus hongkongensis	香港鬥魚	Hong Kong Paradise Fish	Global Concern	 Recorded at Sai Kung and Northeast New Territories
Mastacembelus armatus	大刺鰍	Spiny Eel	Local Concern	 Recorded at Northeast New Territories
Oryzias curvinotus	弓背青鱂	Rice Fish	Global Concern	 Recorded at Lantau, Sai Kung and New Territories
Plecoglossus altivelis	香魚	Ayu	Regional Concern	 China Red Data Book: Vulnerable Recorded at Lantau
Pseudobagrus trilineatus	三線擬鱨	Three-lines Bagrid Fish	Global Concern	 China Species Red List: Vulnerable Recorded at Sai Kung and Tai Po

Rasbora steineri	斯氏波魚	Chinese Rasbora	Global Concern	 Recorded at Northeast and Northwest New Territories
Rasborinus formosae	台細鯿	Taiwan Lesser Bream	Global Concern	 China Species Red List: Vulnerable Recorded at Central New Territories
Rasborinus lineatus	線細編	Striped Lesser Bream	Global Concern	• Recorded at Central New Territories and Tai Po
Rhinogobius cervicosquamus	項鱗吻鰕虎 魚	Barcheek Goby	Global Concern	• Recorded at Central New Territories and Tai Po
Rhodeus ocellatus	高體鰟鮍	Rose Bitterling	Local Concern	Recorded at Central New Territories
Schistura incerta	無斑南鰍	Inmacular Loach	Local Concern	 Recorded at Hong Kong Island, Sha Tin and Tai Po
Stiphodon atropurpureum	菲律賓枝牙 鰕虎魚	Philippine Neon Goby	Global Concern	 Recorded at Lantau, Sai Kung and New Territories
Stiphodon cf. multisquamus	多鱗枝牙鰕 虎魚		Global Concern	 China Species Red List: Endangered Recorded at Lantau, Sai Kung and New Territories
Tanichthys albonubes	唐魚	White Cloud Mountain Minnow		 China Red Data Book: Extinct in the wild China Species Red List: Extinct in the wild List of State Key Protected Wildlife in China: Class II Protected Animal
				 Last recorded at Sai Kung in 1980s

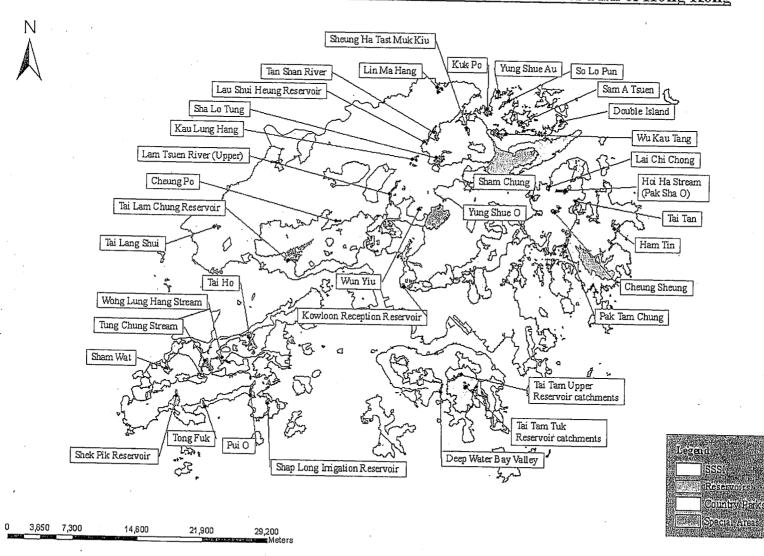
* Notes:

Fellowes, J.R., Lau, M.W. N., Dudgeon, D., Reels, G. T., Ades, G. W. J., Carey, G. J., Chan, B. P. L., Kendrick, R. C., Lee, K. S., Leven, M. R., Wilson, K. D. P. & Yu, Y.T. 2002. Wild animals to watch: terrestrial and freshwater fauna of conservation concern in Hong Kong. Memoirs of the Hong Kong Natural History Society.

List of Sites of Conservation Importance for the Freshwater Fish of Hong Kong

No.	Site	Protection Status
1	Cheung Po, Northeast New Territories	Ecologically Important Stream
2	Cheung Sheung, Sai Kung	Ecologically Important Stream
3	Deep Water Bay Valley, Hong Kong Island	Ecologically Important Stream
4	Double Island, Northeast New Territories	Within Plover Cove Country Park
5	Ham Tin Stream, Sai Kung	Within Conservation Area
		 Ecologically Important Stream
6	Hoi Ha Stream, Sai Kung	 Partly within the Sai Kung West Country Park
		Ecologically Important Stream
7	Kau Lung Hang, Tai Po	Ecologically Important Stream
8	Kowloon Reception Reservoir, Central New Territories	Within Kam Shan Country Park
9	Kuk Po, Northeast New Territories	Ecologically Important Stream
10	Lai Chi Chong, Sai Kung	 Partly within the Sai Kung West Country Park
	·	Ecologically Important Stream
11	Lam Tsuen River, Tai Po	Ecologically Important Stream
12	Lau Shui Heung Reservoir, Northeast New Territories	Within Pat Sin Leng Country Park
13	Lin Ma Hang, Northeast New Territories	 Within Lin Ma Hang Stream SSSI Ecologically Important Stream
14	Pak Tam Chung, Sai Kung	 Partly within Sai Kung East Country Park and Coastal Protection Area Ecologically Important Stream
15	Pui O, Lantau	 Largely within Coastal Protection Area Ecologically Important Stream
16	Sha Lo Tung, Tai Po, Northeast New Territories	 Within Sha Lo Tung SSSI & Conservation Area Ecologically Important Stream
17	Sam A Tsuen, Northeast New Territories	Outside protected area
18	Sham Chung, Sai Kung	 Within Conservation Area and Coastal Protection Area Ecologically Important Stream
19	Sham Wat, Lantau	Ecologically Important Stream
20	Shap Long Irrigation Reservoir and its catchments, Lantau	 Largely within Lantau South Country Park
21	Shek Pik Reservoir and its catchments, Lantau	Within Lantau South Country Park
22	Sheung Ha Tsat Muk Kiu, Northeast New Territories	Within Pat Sin Leng Country Park
23	So Lo Pun, Plover Cove,	Ecologically Important Stream

	Northeast New Territories	
24	Tai Ho, Lantau	◆ Tai Ho Stream SSSI
		Ecologically Important Stream
25	Tai Lam Chung Reservoir, Tuen Mun	Within Tai Lam Country Park
26	Tai Lang Shui, Tuen Mun	Outside protected area
27	Tai Tam Tuk Reservoir catchments, Hong Kong Island	Within Tai Tam Country Park
28	Tai Tam Upper Reservoir catchments, Hong Kong Island	Within Tai Tam Country Park
29	Tai Tan, Sai Kung	 Partly within Sai Kung West Country Park
		Ecologically Important Stream
30	Tan Shan River, Northeast New Territories	Ecologically Important Stream
31	Tong Fuk, Lantau	 Partly within Coastal Protection Area Ecologically Important Stream
32	Tung Chung Stream, Lantau	Ecologically Important Stream
33	Wong Lung Hang,Lantau	 Partly within Lantau North Country Park Ecologically Important Stream
34	Wu Kau Tang, Northeast New Territories	 Largely within Conservation Area and partly within Plover Cove Country Park Ecologically Important Stream
35	Wun Yiu, Tai Po	Ecologically Important Stream
36	Yung Shue Au, Northeast New Territories	Ecologically Important Stream
37	Yung Shue O, Sai Kung	Ecologically Important Stream



Location Map of Sites of Conservation Importance for the Freshwater Fish of Hong Kong

Annex 3